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PRACTICAL HUSBANDRY,
OR, THE
Art of Farming,
WITH A CERTAINTY OF GAIN:
AS PRACTISED BY
Judicious Farmers in this Country.

THE RESULT OF
EXPERIENCE AND LONG OBSERVATION.

By Dr. JOHN TRUSLER, of *Cobham, Surry.*

—K

In this Work is contained all the Knowledge necessary in the plain Business of Farming, unincumbered with Theory, Speculation, or Experimental Enquiry; also, a Number of Estimates of the Expences and Profits of different Crops in the common Way, taken from Minutes kept: and a Variety of useful Remarks, not to be met with in any Books of Agriculture.

TOGETHER WITH
DIRECTIONS FOR MEASURING TIMBER.

THE THIRD EDITION.

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M.DCC.LXXX.



TO
SIR GEORGE WARREN,
KNIGHT OF THE HONOURABLE ORDER OF THE BATH,
AND
ONE OF THE REPRESENTATIVES IN PARLIAMENT
FOR THE BOROUGH OF LANCASTER;

(As to a GENTLEMAN
Essentially serving his Country,
By expending a very ample Fortune in
Employing the poor around him,
And improving of Land),

THESE PAGES ARE HUMBLY INSCRIBED,
By one, who is proud of the Opportunity
Of telling the World, he has the Honour
Of classing among his many Admirers:

His very respectful,

And most obedient humble Servant,

JOHN TRUSLER.

Cobham, Surry, July 20, 1790.

SIR GEORGE WARREN

Resident of the ...

INTRODUCTION

(Addressed to the ...)

It is a pleasure to have this Country

It is a pleasure to have this Country

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THE ...

There is not a more beautiful ...

or more pleasing amusement in rural life

than agriculture nor does any one thing

independence

INTRODUCTION.

IT may not be amiss to premise, as an introduction to this work, that the following pages were not made public with a design of instructing men early bred to husbandry; but to give Gentlemen, who may think proper to use a certain quantity of land, either for amusement or convenience, such an insight into the nature of farming, as will enable them to check the negligence, correct the ignorance, or detect the imposition, of servants.

There is not a more healthful, rational, or more pleasing amusement in rural life, than agriculture, nor does any one thing,
independent

INTRODUCTION.

independent of profit from sale, yield a family more conveniencies, or in greater plenty, than a farm; but it must be a satisfaction, at the same time, not to pay more for those conveniencies than necessary. To those gentlemen who seldom examine their accounts, or look into the application of their money, this treatise will be useless: they take servants with good characters, and to their honesty they trust the whole. Few bailiffs, with a stated salary, are much in their master's interest; they crop the land, perhaps, and possibly keep it in good condition; but the expence with which it is done, is no part of their consideration. A farmer's chief gains arise from making his lands produce as much as possible, and doing the business at as little expence as he can. For this purpose, he takes the advantage of seasons, attends to his team, that his horses are in health, kept so without waste of provender, and that they work a certain number of hours; he takes care

INTRODUCTION.

to employ no hands but what are absolutely necessary ; gives no more for labour than his neighbours ; sees that his labourers fill up their time, work their stated hours, and neither rob him of, nor waste, his property ; he gets his harvest properly in, whilst the weather is fine, buys in his stock at the best hand, and gets a market price for all he sells. But, does every gentleman's bailiff do this ? No. His master's eye is seldom upon him ; his account is scarce ever looked at ; and he is found more in the interest of the employed, than his employer. I have seen twenty men in a hay-field, and about a hay-rick, when half the number would have been sufficient ; they have stood in one another's way, and half their time they have been idle ; instead of taking advantage of the dry time, and working till dark, they have quitted at six, and left the rick to the mercy of the weather. This a farmer *never* suffers ; and it is by this, and other things, that gentlemen

men

INTRODUCTION.

men lose by farming. But, would they occasionally look into the business themselves (and none but such can ever expect to profit by it), they would very soon find their account in it, and it would fill up many a listless hour.

To gentlemen fond of riding, without an object in view, even riding becomes irksome; but were they, when in the country, to ride about their farm every fine day, each gate opening with a latch; were they to examine, at such times, the improvement of their cattle, the condition of their team and implements, the state of their fences, the cleanness of their grounds, the richness of their meadows, and the luxuriance of their crops; new pleasures would daily rise before them, and their morning's faunter would be delightful. To such persons experiments occasionally made upon an acre or two of ground, under their own immediate direction, would throw new
lights

INTRODUCTION.

lights upon husbandry, be useful to the world, and amusing to themselves: but to make such experiments of real use, minutes should be kept of every circumstance respecting them; the nature of the soil, the number of ploughings and harrowings, the quantity and kind of manure, the quantity of seed sown, the time of sowing, the weather, the cultivation till harvest, the time of cutting, the produce when threshed, and every other particular; and comparing these at home with former, or similar, crops, would afford no unpleasing amusement in a wet morning. But, whilst I am studying the interest of others, I am forgetting my own. I am finding, employment for *gentlemen*, who may *dread* employ, and under a notion of recommending my book, I am thus, perhaps, destroying its success. For *any* useful employ to men of fortune, in the present age,

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INTRODUCTION.

is irksome to think of. They *waste* their important hours, and *fritter* away their life in *trifles*.

CONTENTS.

C O N T E N T S.

CHAP.		Page.
I.	<i>Of Soils</i> - - -	4
II.	<i>Of the Team</i> - - -	11
III.	<i>Of Wheat</i> - - -	21
IV.	<i>Of Barley</i> - - -	34
V.	<i>Of Oats</i> - - -	40
VI.	<i>Of Buck-wheat</i> - - -	48
VII.	<i>Of Beans</i> - - -	52
VIII.	<i>Of Peas</i> - - -	64
IX.	<i>Of Tares</i> - - -	69
X.	<i>Of Turneps</i> - - -	77
XI.	<i>Of Clover</i> - - -	83
XII.	<i>Of the Course of Crops</i> -	105
XIII.	<i>Of the Profits of a Farm in general, and Grass-lands in particular</i> - - -	110
XIV.	<i>Of Ploughing and harrowing</i>	117
XV.	<i>Of Weeding</i> - - -	124
	B 2	XVI. <i>Of</i>

C O N T E N T S.

CHAP.		Page.
XVI.	<i>Of Hedging and Ditching</i> -	126
XVII.	<i>Of Threshing</i> - - -	129
XVIII.	<i>Of Manuring</i> - -	132
XIX.	<i>Miscellaneous Observations</i> -	144
XX.	<i>On the Price of Labour</i> -	153
XXI.	<i>On Measuring Timber</i> - -	158

TRUSLER's

TRUSLER's

PRACTICAL HUSBANDRY.

THERE being a general rage for Farming throughout the kingdom, among men of landed property, and among others who take it up under a principle of amusement, or gain, the Author of this work flatters himself, the following pages will be very acceptable to the Public; particularly, as the many treatises on farming hitherto published, are so crowded with theory,

theory, new experiments, and speculations, that, instead of being useful to country gentlemen, they have ever misled them; and, after the trial of a number of years, have shewn, that farming, to them, instead of producing profit, has brought on a considerable loss. The fact in short is this: such books have induced gentlemen to try new methods, and follow them in all the round of idle speculation, when they should have pursued that plain method which every farmer follows. Thus have they attributed their loss to the dishonesty of servants, which, in fact, arose from their want of knowledge in the business of farming; whereas, had they never looked into such books of agriculture as are now extant, but depended even on the little knowledge and experience of an honest country servant, bred to the plough, they would have reaped an advantage; though not equal perhaps to the farmer who has followed the business his whole life.

To

To correct these mistakes, and point out that method of agriculture which every experienced farmer pursues, is the design of this Work; and the Author persuades himself, that, if his instructions are observed and attended to, there is no land in this kingdom but will, while it amuses the cultivator, yield him a considerable profit. He does not wish to deter gentlemen from trying experiments, or following new methods; but, if they wish to profit by farming, such experiments, or new methods, must be made only occasionally. The loss of a few pounds on one acre of land is of no consequence; but when that one is extended to some hundreds, it discourages the enquirer, and leads him to attribute that to the dishonesty of servants, the poorness of the soil, or bad markets, which is wholly owing to experimental enquiry.

CHAP.

C H A P. I.

OF SOILS.

THE first thing every systematic treatise on agriculture teaches the husbandman to enquire into, is the nature of his soil. Whether this consists of marle or limestone, more or less salts or oil, the *pabulum* of plants, to the plain, practical farmer, is immaterial; all that is essential for him to know, is, whether the land be stiff or light, and whether it is best adapted to the growth of wheat or barley. Of this he may instantly judge by his eye, or he may learn it from a sight of the crops, the information of the neighbours, or the trial of one year; and if even reduced to pick up his knowledge from the last, an indifferent crop for one year cannot ruin him.

Every

Every husbandman knows, that rye, barley, turneps, and clover, will thrive best in a light soil; oats, beans, and wheat, on a stiff or strong one; that strong clayey land will require winter fallows to break and pulverize the soil; and that light, sandy, or gravelly land will want summer fallows to destroy the weeds: that horse-dung is the best manure for all kinds of land, but that clayey land will receive benefit from light dressing, though it be ashes, or even sand; and that light lands may be helped, even by a dressing of clay.

I would, however, advise every person commencing farmer, or taking a farm, to make some little enquiry into the nature of his lands. As he will never jump into a farm hastily, without some consideration, I would recommend it to him to take a view of the crops just before harvest, the season before he is to take possession of it.

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If the land be poor, the crops of wheat or oats will be thin, the straw short, and the ears small; if rich, the crops, on the contrary, will be thick, the straw long, and the ears large, and in many places it will be lodged; that is, instead of the straw standing upright, it will be fallen on the ground,—a sure sign of the strength and richness of the land. If the wheat be full of poppies, it denotes a light poor soil; if full of thistles, a strong, good one. I mention this last observation, from what I have too often seen, that of a farm's being generally foul when a tenant quits it. Indeed a new occupier has little to expect, but to lose money for the first three or four years, till he has cleared his land, and brought it into good heart; (so apt are old tenants, through a mercenary principle, to over-crop it, and neglect to clean it, towards the expiration of their leases) unless he takes it immediately out of the hands of some gentleman, who has valued more the neatness

neatness of his grounds, than any profit he might derive from them. By such a view of the different fields, he will be able to form a good judgment of the nature of the soil, and what kind of crops it is best suited to. If it should so happen, that he cannot have this view of the farm the season before, he may collect the information from such neighbours as are no way interested in his taking it; or let him take a spade and examine the depth and nature of the mould, by digging in one or two of the furrows in each field. The greater depth of mould there is, the better the land, and the more capable of improvement. If the earth be a black crumbling mould, it cannot be bad. Foulness and poverty are to be got the better of, but it is very difficult and expensive to increase the depth of the upper staple of the land; that is, the earth in which the corn grows. With respect to the strength and richness of the soil, thistles among the weeds are no bad proof of it.

It should be the new comer's business to enquire what dressing has been laid upon the different fields, and when; and what course of crops they have borne; that is, what grain they have been sown with since the last fallow, and he should determine his future crops accordingly. If he goes this way to work, and crops his land agreeable to the courses pointed out in this work, he will have no reason to apprehend much loss; particularly, if he has got a good honest carter, with some little experience, who can plough and sow the land well, and who will not rob his master himself of the grain when threshed, nor suffer the threshers to do it. Such a man may be easily procured in every part of the kingdom; for countrymen in general, accustomed to hard and homely fare, and unacquainted with the luxuries of life, have few temptations to dishonesty, and being void of art and cunning, if a little attended to by their masters, will not readily find the

the way to injure him. Gentlemen, who, as I have before observed, are obliged to entrust more to their servants than farmers do, have been apt to attribute their loss in agriculture to them, which, in fact, has arisen only from their trying experiments, pursuing every fanciful scheme laid down in books of husbandry, and expending more in the *beauty* and *neatness* of their lands than is necessary. If gentlemen wish to profit by farming, they must content themselves with tolerably clean fields, and good saving crops; but if they study to decorate the farms, by clipped hedges, large branching trees, that impoverish the headlands, &c. belt walks, and the like, they must expect to suffer in the product. Lands will require a certain number of ploughings and harrowings, and a certain quantity of manure, and will pay well for such labour and expence; but if that certain quantity is exceeded, the money is thrown away; for the land may be made to
 produce

produce as good a crop with five or six ploughings, as if ten were bestowed upon it; and as to dressing, every farmer knows, it may be over done, for rank luxuriant wheat will be lodged with the first rain or wind, and the crop then is irrecoverably lost. A certain degree, therefore, of ploughing and manuring is necessary, and will be attended with advantage; but beyond that degree, the crop will not answer the tillage.

C H A P.

C H A P. II.

O F T H E T E A M.

ANOTHER principal matter that has misled many in their calculations of farming, is want of attention to the expences of a team. Few gentlemen in commencing farmers begin with more than fifty or sixty acres of land,—what is called a small farm. Upon such a quantity of land, I defy any but a working farmer to be a gainer; he who works upon his farm himself, and saves the expence of a servant, and who occasionally goes, with his horses, to job-work, ploughs and harrows for other people who may now and then stand in want of assistance, or employs his team on spare days in carrying coals, timber, manure, &c. for such as will hire him: for three or four horses will nearly
consume

consume the whole produce of a farm of fifty acres, unless the land be very rich indeed.

Light soils may be ploughed with two or three horses; but stiff lands will require four; a sufficient quantity of land then must be occupied to find full employ for such a team, in order to pay the farmer for his toils. This team will cultivate about one hundred and twenty acres of arable land; and, as in most farms there is some meadow, some upland grass, and some coppice, we may reckon a farm of one hundred and fifty acres of land not too much for a team of four horses, a man, and a boy. Other servants need only be hired occasionally. We will now consider the expences of such a team. But let us first estimate the value of the necessary farming implements, that we may be able to rate their annual decline in value, as part of the expences. I shall not be very nice or exact in these estimates, as the difference of a pound

pound or two in yearly expences is of little moment, and as very accurate calculations would unusefully swell the size of this tract; but I shall set them down from minutes I have taken, and estimates I have made from such minutes, for my own curiosity, for many years.

The price of labour, and the first cost of farming implements, will be found to vary a little in different counties, but not so much as to make the difference of the aggregate sum of any consequence. Our enquiries are not about shillings, but sums of greater moment.

It will be necessary, then, for the cultivation of a farm of one hundred and fifty acres, to have as follows :

D One

	£.	s.	d.
One waggon, value about -	24	0	0
Two carts - - -	18	0	0
Two ploughs - - -	3	10	0
A roller - - -	3	0	0
Two large harrows - -	2	0	0
Four smaller ones, of two sizes	3	0	0
A winnow - - -	2	0	0
Two thill harnesses, and three leading ones, and four halter- bridles, about - - -	9	10	0
Two load of, or forty, sacks	4	0	0
Eight dozen of hurdles -	1	4	0

[These are supposed to be made of rods growing on the farm, the making of which will not cost more than 10s. or 12s. but, as they will not last above five or six years, allowance is made in the price for new ones.]

A corn screen, sieves, measures,
and other fundry articles, for
even money, about -

	4	16	0
Four horses, about - -	75	0	0
	80	0	0
	<hr/>		
	£. 155	0	0
	<hr/>		

The annual decline of value of £. s. d.
 the implements above, upon
 an average, will be found to
 be about 10 *per cent.* that is 7 10 0

That of the horses, about 15
per cent. - - - 12 0 0

Farrier, and shoeing of four horses 4 0 0

Blacksmith's bill, about - 6 0 0

Wheeler's - - - 2 0 0

Collarmaker, about - - 3 0 0

Carter, 9s. 6d. per week, and a
 loding in the farm - house.

This man will buy and sell, and

do all the business of the farm 24 14 0

Boy's wages, 6d. per day - 7 16 0

Grease for wheels, about - - 0 5 0

Two acres and a half of clover,
 value 5l. an acre, will keep
 four horses seventeen weeks, if
 cut green, and carried into the

stable to them; that is, - 12 10 0

£. 79 15 0

	£.	s.	d.
Brought over	79	15	0
During the time of eating green meat*, one half-peck of oats a day is sufficient for each horse; say seven quarters and a half, at 19s. per quarter - -	7	2	6
Seventeen loads of hay will keep them the other thirty - five weeks, at 40s. per load -	34	0	0
During these thirty - five weeks they should have one peck of oats each day per horse, at 19s. per quarter; that is about thirty quarters and a half -	28	19	6
Annual average expence, &c.	149	17	0

The above expences being as necessary on a farm of fixty acres, as upon one of one

* Some farmers contend, that it is not necessary to give them oats while at green meat; but, if they are worked hard, they will require oats.

one hundred and fifty, it evidently appears, that no profits are to be gained upon so small a farm; for, after the rent, feed, and harvest are added to the amount, there must remain a considerable loss, even supposing the land, on an average, to bring in four pounds an acre; which, considering accidents, and the necessity of letting it lie idle for a fallow, once in five or six years, it cannot be supposed to do: But, let the same team do the work of a farm of one hundred and fifty acres (which, with management, it is capable of doing), and it will yield a considerable profit, as I shall hereafter shew. If gentlemen keep coach-horses, which they can occasionally spare to plough or harrow a few acres of ground, and cultivate no greater quantity of land than will maintain those horses, and yield a product which they can consume in their own families; they will certainly find their account in occupying

pying even thirty or forty acres; as I have fully evinced in a Pamphlet I published some years ago, called *The Way to be Rich and Respectable*; where it will appear, a person may live as well, and make as good an appearance in the country, for four hundred pounds a year, as others do that spend a thousand pounds, having no such land: but those who keep horses and servants, merely on the principle of farming, must not expect to profit, unless they occupy as much land as will employ those servants and horses fully.

Some have recommended the use of oxen instead of horses, as eating no corn, and, of course, less expensive; indeed, oxen do not decline in their value as horses do, being, after four or five years labour, generally fattened, and young ones broken in their stead; nor are they liable to so many disorders as horses: if an ox falls lame, he is only fattened the sooner, where-

as

as a lame horse is of little value. Again, also, there is some little saving in harness, and attendance when their work is done; but, when it is considered that it will require three, if not four, oxen to supply the place of two horses, and of course that a greater quantity of hay is consumed, the object saved is not so great; especially when some farmers contrive to save the decline in value of their horses, by doing their work with colts, and selling them at five years old for coach-horses. By this method, their teams have turned out very profitable to them, the only necessary care being, not to work them too hard. To effect this end, the team should consist of mares, and a stone-horse should be kept on the farm. With gentle work, a mare may be kept in harness till she drops her foal, and worked again a few days after, with her foal by her side.

Being

Being now on the subject of the team, I will take the opportunity of recommending iron axle-trees to waggons and carts, instead of wooden ones; the first expence indeed will be more, each iron axle-tree costing about five pounds; whereas the price of a wooden one is not above seven shillings and six-pence: but I aver, it is the cheapest in the end, as they are not so liable to break, and will last out two or three waggons; and add to this, the principal motive of my recommending them, a waggon with iron axles is of considerably less draught than one with wooden axles. I am persuaded it is the difference of one horse in four; that is, three horses will draw as much with iron axles, as four would with wooden ones: and the reason is evident. To make wooden axles sufficiently strong, their diameter must be twice as large as iron ones; the friction, therefore, and of course the draught, must be proportionably greater.

C H A P.

C H A P. III.

OF WHEAT.

WHEAT being the farmer's staple crop, to which he looks for his chief profit, he will pick out the cleanest fields for this grain, and such as are most in heart. The land is generally fallowed and manured for a wheat season, or the grain is sowed on the breaking up of a clover lay, which has lain a year or two in that artificial grass, or after a crop of turneps fed off with sheep, the land for which has been dressed or manured the spring before.

The time for sowing this grain, is from the beginning of September to the end of November; but the prime season, as appears from a number of experiments made

E

by

by Mr. Young, is between the first week in September, and the last in October. Farmers, in general, wish to get their seed into the ground by the 29th of September; they seldom think of sowing earlier; indeed, if they are to break up a clover lay, or sow it in a turnep field, they cannot well get their land ready sooner; as, in the first case, they lose the clover feed in the month of September; and, in the other, the turneps are of little value much before Michaelmas. If, therefore, they have much wheat to sow, and but one team to prepare the ground, necessity often obliges them to be sowing wheat in the month of November. If the land be wet, by postponing it so long, they may chance to lose the seed-time, from an impossibility of working the ground; but, if the land be dry, the end of November will not be too late to produce a tolerable crop: though the nearer it is sowed to Michaelmas, the more we may expect to reap.

Next,

Next, as to the quantity of seed per acre: This is, in some measure, determined by the cleanness and richness of the land. If sown upon a fallow, or after turneps, two bushels an acre is the general allowance; if on a clover lay, rather more than two bushels—about two bushels and a half. In a variety of experiments on clayey and gravelly soils, Mr. Young asserts, that two bushels and a half is the most advantageous quantity for an acre of land; but farmers in general seldom sow more than two bushels, or two bushels and one peck.

To prevent the wheat being black or smutty, it is seldom sown without being first steeped some hours in brine, made of water in which as much salt has been dissolved as will cause an egg to swim; when taken out, it is dried with powdered lime, and then sown. This custom took its rise from an accident near the sea-side, where a quantity of wheat was sowed, that, by the
wreck

wreck of a vessel had been some time under water. It was observed, that the year, in which this happened, was remarkable for smutty corn, and the wheat in that neighbourhood particularly so, whilst the produce of that grain that had been soaked in salt water was totally free from the least appearance of smut. Many farmers lime the seed only, by pouring boiling water on lime, and, when cold, soaking the seed in it.

The seed once sown, it requires little care till harvest : all that is necessary is, to keep it dry by water-furrowing, to weed it in the spring, if foul (which should be done, if possible, before the end of April, lest it should be too much grown), and if its colour be a very dark green, and the crop should be too luxuriant, owing to the strength and richness of the land, to turn a flock of sheep into it, in dry or frosty weather, in the month of March, and let them eat it down close to the ground. If
this

this precaution be not taken, there will be danger of its falling, or being lodged, by wind or rain, before harvest, and the crop in a great measure spoiled. When eaten down by sheep, it will branch out afresh, and the stems will be shorter, and less liable to fall.

Should the wheat, in March or April, bear a yellow hue, it is a sign of its not being healthy; its colour should be a dark green. In wet land it will look yellow; but, as the dry weather approaches, it will regain its colour. In wet soils, the narrower and higher the ridges or lands lie, the better; what ploughmen call, two or three-bout lands, are best; in this case, there being a greater quantity of furrows, the water will, of course, run off the readier, and the lands lie drier. In harrowing such lands, after the corn is sown, the horses should go in the furrows; this will leave the ridges round and smooth. In sowing wheat,

wheat, some plough it in, and others only harrow it in like other grain; the chief advantage of the first way is, to preserve it from the birds. Wheat may be sown, with advantage, with, or after, the second ploughing.

If, in the Month of February or March, the crop appears thin, weakly, or unhealthy, top-dressings of wood-ashes, malt-dust, or foot, may be occasionally sown over it, at the rate of about thirty or forty bushels an acre, which will greatly improve it; but this is an additional expence of twenty shillings an acre, neither of these articles being the produce of the farm.

Change of seed is another material object of attention, to which farmers pay a due regard, that their wheat may be large and heavy; nay, some kinds of grain will produce a greater quantity than others. The chief point with farmers in general, is,

is, not to have seed, if they can help it, from their own neighbourhood, but, to procure seed from light land to sow on a stiff soil; and seed from stiff or strong ground, to sow on light soils; and great care should be taken, that the seed sown be clean from the seeds of weeds, otherwise you contribute to the foulness of your land.

In a word, though wheat is a grain that will not pay great expences in the culture, it should either be sown on land in good heart, or not at all. It is a crop that should ever succeed meliorating ones, viz. beans, clover, tares, turneps, &c. or a summer fallow, and thrives best on stiff ground.

The following is an estimate of a generally saving crop upon an acre of ground. As I suppose the farm to consist of one
hundred

hundred and fifty acres of land, and the aggregate expences of a team, with wear and tear of implements, &c. to be as before stated 149l. 17s. I shall rate the team at twenty shillings an acre. The account then will stand thus :

E X P E N C E S.

	£.	s.	d.
Rent, tythe, and taxes, suppose	1	0	0
Team, &c. - - -	1	0	0
Two bushels of feed, at five shillings - - -	0	10	0
Additional labour in carting and spreading manure, and water- furrowing - - -	0	2	6
Brining - - -	0	0	6
Weeding (this not always wanted)	0	1	6
Reaping (this sometimes less or more) - - -	0	8	0
	<hr/>		
Carry over	£. 3	2	6

(29)

	£.	s.	d.
Brought over	3	2	6
Additional labour in carrying in	0	1	0
Threshing two quarters and a half and cleaning, at three shillings	0	7	6
Binding one load and a half of straw	0	1	6
	<u>£. 3</u>	<u>12</u>	<u>6</u>

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PRODUCE.

	£.	s.	d.
Two quarters and a half of wheat, at forty shillings	5	0	0
One load and a half of straw, at fifteen shillings	1	2	6
	<u>6</u>	<u>2</u>	<u>6</u>
Expences	3	12	6
Neat profit	<u>£. 2</u>	<u>10</u>	<u>0</u>

F

Land

Land may be brought into such heart, as to produce four or five quarters of wheat an acre; at least such land as that I am now speaking of, which I suppose to be worth fourteen or fifteen shillings an acre. In this case, every additional sack of grain will produce an additional profit of eighteen shillings and six - pence. In the above estimate, I have also rated the price of wheat very low; it is much oftener at a higher price than otherwise.

Wheat will receive a greater advantage from dressing, if the manure be not laid on immediately for it; that is, if the wheat crop follows an ameliorating crop of turneps, tares, &c. for which the land had been previously dressed; for, by this method, the great strength of the manure, which makes the wheat rank, is taken off by a prior crop.

Besides,

Besides, dressing and fallowing land for tares or turneps will produce a luxuriant crop, that will overshadow the land so much as to smother any weeds carried on by the dressing, and of course the succeeding wheat-crop will be cleaner, as I shall shew in the chapter on Tares.

In looking over a field of wheat, if it be free from smutty ears, the straw pretty thick on the ground, and not lodged, the ears in general large, and the crop tolerably even; that is, the ears of corn throughout the field rising every where from the ground to a level with each other, it may be pronounced a good crop.

Wheat is ripe and fit to reap, when the straw is every where yellow, and the ears hang down. If the wheat sheds in reaping, it should not be cut in the middle of the day, but mornings and evenings, when
the

the dew is on; and that part of the field should be first cut that was first sown.

There are two or three sorts of wheat, but I do not know that one will produce a more profitable crop than another.

If, after wheat is reaped and bound, there should be much met, the grain will be apt to shoot, particularly in the bands. In this case, it should be opened, dried, and re-bound.

Between three and four hundred sheaves an acre, provided the ears be large and heavy, is a very good crop. Some acres will yield from seven to eight hundred sheaves; where there is so much straw, there is generally less corn. Some acres again, if the land be poor, will produce scarce two hundred sheaves.

If fifteen sheaves produce a bushel of wheat, it is a very good crop. In this case, an acre that gives three hundred sheaves, will yield two quarters and a half, or half a load of wheat.

CHAP.

CHAP. IV.

OF BARLEY.

BARLEY thrives best on a dry light soil, and requires three ploughings at least, if not four, with a good deal of harrowing to bring the land into fine and proper tilth. The stiffer the soil, the more ploughings are necessary. If the spring be fine and dry, there is time to make the ground tolerably clean for this crop, which is seldom sowed till about the beginning or middle of April. Barley is frequently sowed, and with success, in the last week in April; but Mr. Young, from a variety of experiments which he made, assures us, that, provided the land be dry, and can be got into good tilth early enough (which may be, if barley follows a summer

a summer fallow), the most profitable time of sowing it, is the end of February, or the beginning of March, as such early sowing will produce a third more at harvest. This may be true, and worth the trial; but farmers, in general sow it late, that they may have an opportunity of bestowing much labour on their land, and making the soil as fine as possible. Besides, such late sowing often enables them to crop the land that was sown with turneps the year before for sheep-feed, and which cannot be eaten off, perhaps before the end of March.

The quantity of seed usually sown, is four bushels per acre; and this is universally allowed, when clover is sown with it, to produce the best crop at harvest. Indeed, when barley is sown without clover, five bushels of seed will produce more grain at harvest than four, but not in the proportion of five to four; so that four bushels

busbels of seed per acre, is certainly the proper quantity to sow with or without clover. As, in the case of wheat, the richer the land is, the less quantity of seed is requisite; but that diminution of quantity is not great, perhaps a peck, or half a bushel.

Change of seed is here as necessary as in wheat crops. Care should be taken to sow such as was raised on a different soil to that on which we mean to sow it; and that the seed be clean from the seeds of weeds.

The general method of cultivating barley is, to sow the land with clover after the barley is in the ground, as will be shewn when we speak of clover; at present, I will give the reader an estimate of a tolerable, saving, crop of an acre of barley alone, but of such with which clover is mixed.

EXPENCES.

EXPENCES.

	£.	s.	d.
Rent, tythe, and taxes - -	1	0	0
Team, &c. - - -	1	0	0
Four bushels of feed, at three shillings and sixpence - -	0	14	0
Mowing - - -	0	2	6
Expences of getting in - -	0	4	6
Threshing five quarters, at two shillings - - -	0	10	0
	<u>£.3</u>	<u>11</u>	<u>0</u>

PRODUCE.

	£.	s.	d.
Four quarters, at twenty-eight shillings - - -	5	12	0
Straw, one load and a half, at fifteen shillings - - -	1	2	6
	<u>6</u>	<u>14</u>	<u>6</u>
Expences - - -	3	11	0
	<u>3</u>	<u>3</u>	<u>6</u>
Neat profit - - -			
G			

Seven quarters of barley is no uncommon crop for rich light land ; but from stiff land, you may not reap more than four, or three. When this is the case, barley should not be sown. I have valued the straw at the price it would sell for ; but this should be eaten by the cattle, and consumed on the farm, for the sake of the manure. But, admitting this to be done, it is still of equal value to the farmer,

From a continuance of dry weather after the seed is up, the blade will sometimes look sickly, and wear a yellow hue ; but a little rain will soon recover it.

The same indications that declare wheat to be ripe, will pronounce barley to be fit to cut.

Care should be taken that barley with which clover was sown, should be turned
after

after it is cut, sufficiently to dry the clover, before it is either housed or stacked; otherwise it will heat in the mow, and spoil the grain. Good Barley, as good wheat, may be known by the grain's being heavy, large, fair plump, and sweet-smelling; not dry, discoloured, small, shrivelled, or musty.

C H A P.

C H A P. V.

OF OATS.

THIS grain, though not so profitable as wheat or barley, from the great number of horses kept in this country, is a part of every farmer's crop. Indeed, though the produce is not of equal value with a crop of barley or wheat, there is more certainty in the price it will fetch at market; for I never yet observed so great a variation in the value of oats, as in that of the other two. If a farmer finds his land rich, and able to bear crops for years together, that will turn out more profitable than oats, he would be imprudent to grow any. In this case, it will be his interest to buy all the oats he wants, rather than grow them to a disadvantage; but,

but, if his soil be a hungry one, and he cannot procure sufficient manure, he will do right to have a crop of oats occasionally; for oats will grow almost in any land; though here, as in other crops, the richer the earth, the greater will be the produce. From four to five quarters of oats on an acre of ground, is a very good crop, where the land has been even dressed; but, as farmers are apt to take three or four crops from their ground, after it has been fallowed and manured, before they sow it with oats, they seldom get more than three or four quarters an acre; whereas, were they to sow the seed on ground in good heart, the produce of an acre would be from seven to ten quarters.

There are several kinds of oats, such as are known by the names of, Essex, Poland, Scotch, and Black. The first two are a large-bodied grain; the Scotch, are

are small white oats, such as are given to horses ; and the black are also good horse-corn, but of a black colour. The Essex and Poland thrive best in light barley-land, the Scotch and black on strong wheat land. The fairer, plumper, and shorter the body of the grain is, the better the quality ; and to make it marketable, it should not be brown or mow-burnt, or have any musty smell. Such as is designed for feed, should be well cleaned from the seeds of any weeds.

Clover may be, and often is, sown with a crop of oats ; but this is chiefly on stiff land, where barley is never sown. In light barley land, farmers prefer the barley crop to sow their clover in, because, at that time, the ground is cleaner, and in better heart. I shall treat of an oat-crop here as sown by itself, without any mixture of clover, or other grass.

Farmers

Farmers seldom plough more than once for oats, though it would be better to turn the last year's stubble in before Christmas; and the customary time of sowing them is in the month of March, but a dry April is a better seed-time than a wet March. As oats thrive best generally in stiff ground, it is proper to roll them after they are up. Black oats will, generally speaking, admit of being earlier sowed than white ones.

The quantity of seed generally allowed for an acre of ground, is five bushels; though Mr. Young (whose authority I have more than once quoted), from his experiments, asserts, that the most advantageous quantity is, from seven bushels to seven bushels and a half; but, it appears from his enquiries, that the produce of six bushels does not exceed that of four bushels and a half, more than about one bushel and a half, which is just the extra quantity of seed; so that his experiments prove no
more

more than that five bushels, the customary allotment of all farmers, is the most advantageous.

The following is an estimate of a tolerable crop on an acre of ground:

EXPENCES.

	£.	s.	d.
Rent, tythe, and taxes - -	1	0	0
Team, &c. - - -	1	0	0
Seed, five bushels, at two shillings and six-pence - -	0	12	6
Mowing - - -	0	1	6
Weeding and water-furrowing, perhaps - - -	0	2	0
Getting in - - -	0	2	0
Threshing four quarters, at one shilling and two pence - -	0	4	3
	<hr/>		
	£.3	2	8
	<hr/>		

PRODUCE,

P R O D U C E.

				£.	s.	d.
Four quarters, at twenty shil-						
lings	-	-	-	4	0	0
One load and a half of straw,						
at fifteen shillings	-	-		1	2	6
				<hr/>		
				5	2	6
Expences	-	-	-	3	2	8
				<hr/>		
Profit	-	-	-	1	19	10
				<hr/>		

There is an additional expence in carrying the crop of every field to market, which I have not mentioned before; nor was it perhaps necessary now, it being in itself but trifling.

Plenty of straw in a crop of oats, generally denotes plenty of grain; but it is not always so in other crops.

There is a critical time in cutting of oats; if they are cut too soon, before they

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are

are ripe, great part of the grain will not be threshed out; if they stand till they are full ripe, they are very apt to shed in cutting, turning, and getting in. He who would preserve his good crop, should, as they ripen, every day examine it; and, if he finds them easily rub out as he handles them, should order them to be instantly cut. It sometimes happens, that one part of a field shall be riper than another; when this is the case, the riper parts should be cut in the mornings and evenings, when the dew is on them; the greener part, not so liable to shed, may be cut in the middle of the day. The same care should be taken in turning them, and raking them together after they are cut. If they are stacked or housed before the straw is quite dry, they will be apt to heat in the mow, get a brown hue, and a musty smell, which will considerably reduce their value; and if they are full ripe, when cut and tumbled about in the middle

middle of the day, half the crop will be left shed and scattered in the field.

Should the straw of a crop of oats be so luxuriant as to fall or lodge, it will receive less damage than a crop of any other grain. We need not be apprehensive, therefore, of its being too rank.

CHAP. VI.

OF BUCK-WHEAT.

BUCK wheat, or French wheat, is a spring crop, and frequently, like tares and turnips, sown merely as a manure, to plow into the ground, in order to prepare it for wheat. It is a grain not commonly brought to market, yet, nevertheless, of importance to the farmer, as it will thrive in lands not in proper condition for barley, and will pay him well for sowing it in rich soils; though the general opinion is, that it flourishes best on poor lands. But what is most worthy of consideration in this crop is, that it need not be sown till the middle of May, a circumstance very advantageous to such as occupy wet lands. So that if the ground be not in very good heart,

heart, or it should turn out a bad season for barley sowing, it is not an unpleasant thing to be able to reap from it a good crop of buck-wheat. Where barley is given to cattle, buck-wheat will answer the end as well; and the straw, if properly got in, will turn out good winter fodder. Wet summers are not so favourable for it as dry ones.

The time to sow this grain is, as I said before, about the middle of May, and the most advantageous quantity of seed, *per* acre, one bushel. If the land, by frequent ploughings and harrowings, be made tolerably fine, and the season be favourable, there is little doubt of having a good crop.

(50)

An estimate of an acre.

EXPENCES.

	£.	s.	d.
Rent, &c. - - - -	1	0	0
Team, &c. - - - -	1	0	0
Seed, one bushel - - -	0	3	6
Mowing - - - -	0	1	9
Harvesting, &c. - - -	0	3	0
Threshing four quarters, at one shilling and two pence -	0	4	8
	<hr/>		
	£.2	12	11
	<hr/>		

PRODUCE.

	£.	s.	d.
Four quarters, at twenty-eight shillings - - - -	5	12	0
Expences - - - -	2	12	11
	<hr/>		
Profit - - - -	2	19	1

When

When the land is in good heart, it is no uncommon thing to reap eight or nine quarters from an acre ; and at market it will generally fetch the price of middling barley.

CHAP.

C H A P. VII.

O F B E A N S.

BEANS thrive best in a strong, stiff soil ; and few farmers sow them but in such ground. There are several sorts of beans, though seldom more than two are the objects of the husbandman's attention ; these are horse-beans for the food of horses, and tick-beans for the food of hogs. I have seen some fields of long-pods, which is a garden bean ; and I have myself sowed an acre or two, more than once, with broad Windsors, and dwarf kidney beans ; but as these are out of the line of farming, I shall not say more about them.

Of the two sorts usually cultivated at large, horse beans require a stronger ground
than

than tick-beans. There are two methods of sowing them; some sow them broadcast on the ground, and plough them in, in one earth flat; or plough the ground first into ridges, then sow them broadcast, and harrow them in; and others set them, bean by bean, in a line with dibbers. I have tried them both ways, and scarce know which to give the preference to. If they are sown upon a clover lay, they certainly should be set, that is, pricked in bean by bean; for as seldom more than one ploughing is given to a crop of beans, the earth of a clover field, when broke up, is not fine enough, that is not sufficiently pulverized, to admit of their being sowed broadcast, like other grain; but, if they follow a crop of turneps, wheat, or oats, broadcast sowing will do very well.

In sowing beans broadcast, the expence of setting them (which is done by women

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and children) is avoided, and also a further disadvantage; for though the distance from row to row is pointed out to them, they are apt to set them too thick in the rows, being paid in proportion to the quantity they set, seven-pence or eight-pence a peck, which they get rid of as fast as they can; nor, watch them and talk to them as you will, can you prevent their doing it: this not only wastes the seed, but too often injures the crop. But then again, on the other hand, when sowed broadcast, every part of the field may not be equally covered, the land does not look so neat, and there being a greater difficulty in hoeing them, the men are usually paid six-pence or nine-pence an acre extraordinary. The quantity of beans sown and set is nearly the same in both ways. About two bushels and a peck, or two bushels and a half per acre. The crop at harvest is rather in favour of setting than otherwise,

wife, but perhaps not sufficient to pay the extra expence.

If drilling of crops be worth the attention of the farmer, it is more so in beans and peas than in any other grain; but even here, setting them is a very good substitute; and considering the expence of a drill - plough, which not one wheeler in twenty knows how to make or repair, and not one ploughman in a hundred knows how to use, I question whether setting is not equally cheap in the end. I am sure it is less troublesome to the farmer. Besides, on stiff clayey soils, where beans best thrive, it is impossible to use a drill-plough, which is adapted only to loose, light lands.

The end of February, or early in March, is the customary seed - time for beans, though many sow them so late as April;
and

and some, I have heard say, put them in at, or before, Christmas. From Mr. Young's Experiments, it appears, that early in February is the most advantageous time; but accidents will occasionally delay the sowing, sometimes for a week or a fortnight, such as wet weather, particularly where they are set by women, and there is a want of hands to set them.

The great advantage of a crop of beans to the land arises from the hoeing, as such a crop must be always hand-hoed with a six-inch hoe, once, if not twice, during its growth. If the land be tolerably clean, and the hoeing can be deferred till the beginning of May, once may be sufficient: but if, after the first hoeing, the weeds still get a head, and are likely to rise as high as the beans, they must be hoed a second time. If the land be in good heart, and the beans grow away strong

strong, after once hoeing, they will get above the weeds, and by their luxuriance keep them down, and smother them. As beans have a tap root, and draw their nutriment chiefly from the lower staple of the ground; and as they are hoed once or twice during their growth, and of course the weeds destroyed; farmers consider a bean crop almost as good as a summer-fallow, and will often sow wheat immediately following; though I do not hold this to be good farming, unless the land had been manured for the beans. A master will be better able to judge whether they be clean hoed, provided they are set in rows, than in the broad-cast method of sowing; and in a broad-cast crop, it is as necessary to cut out beans with the hoe, where they rise too thick, setting them out at distances in the manner of turneps, as it is to cut up the weeds. To know whether this be properly done, we must walk over every land.

To

To judge whether a field of beans be good or bad, we must examine how they are kidded; for a good crop depends more on this, than on the quantity of haulm. If they are kidded all the way up from the bottom to the top, and the kids in general contain five or six beans, we may expect to reap largely; but, if otherwise, the reverse. A dry summer is not so good for beans as a showery one; for, in very dry weather, the stalks are short and slender, and the crop often blighted; that is, covered with a black fly; in this case, they must take their chance, for rain only can recover them.

They are seldom ripe enough to cut till September; but the proper time may easily be known by examining them. When the kids are black, and begin to open at the end, they ought to be cut; and though throughout the field some of the kids be not so black as others, this should not prevent

vent us; for they will ripen and harden after they are cut, by setting the sheaves upright, and leaving them out in the field for a week or ten days. If they are cut before they are ripe, they will shrivel: and if too ripe, they will shed considerably in the cutting. Should this last be the case, they should not be cut in the middle of the day, but in the mornings and evenings only, when the dew is on them. They should not be pulled up by the roots, for you would thus carry a quantity of dirt into your threshing floor, but cut off with a hook, as they reap wheat.

An acre of land proper for beans, will produce, with good culture, from two quarters and a half (that is, half a load) to five or six quarters; but three quarters and a half, or four quarters, may be reckoned a very good crop. Rather a greater quantity of tick-beans may be got from an acre of ground than horse-beans; but horse-beans

beans bear always a better price, so that the value of each crop will be much the same. In purchasing beans, particularly for feed, care should be taken that they are hard, and not shrivelled; and the smaller the bean, the better, as there are a greater quantity in the same measure. Beans will generally fetch a greater price after they have lain in the stack eight or nine months, than if they are threshed out before Christmas, as they are then harder and better for feed.

The following is an estimate of an acre of horse-beans, supposing them to have been set.

E X P E N C E S.

	£.	s.	d.
Rent, tythe, and taxes	-	-	1 0 0
Team, &c.	-	-	1 0 0
Two bushels and a half of feed, at			
four shillings	-	-	0 10 0
			<hr/>
Carried over	2	10	0

	£.	s.	d.
Brought over	2	10	0
Setting, at eight-pence a peck*	0	4	0
Guarding them from the crows†, and water-furrowing - -	0	1	0
Hoeing twice; the first time five shillings and six-pence; the second, four shillings and six-pence - - -	0	10	0
Cutting - - - -	0	6	0
Carrying and stacking - -	0	1	4
Thatching - - -	0	2	0
Threshing three quarters and a half, at one shilling and four- pence - - -	0	4	8
	<hr/>		
	£.3	19	0
	<hr/>		

* If the women cover in the seed, they expect one penny a peck more; this, therefore, should be done with the harrow.

† I have mentioned here, guarding from crows, for it will be found necessary to employ a boy for eight or ten days for this purpose, while the seed lies uncovered in the

P R O D U C E.

			£.	s.	d.
Three quarters and a half, at					
thirty two shillings	-	-	5	12	0
Expences	-	-	-	3	19 0
Profit	-	-	-	1	13 0

Where manure is laid on for any crop, it will add something to the expence; as an additional hand or two must be employed to fill the cart, and spread the dung. The price of spreading, is generally one shilling per acre, and one shilling or eighteen-pence an acre may be reckoned for labour in filling.

Mr. Young tells us, that, from the experiments he made, he finds, that by sowing beans upon the same lands, year after year,

the ground, before it can be harrowed; and when the beans are coming up; as crows, at these times, are apt to devour them, and thus injure the crop.

year, each succeeding year will produce a better crop than the year before, even though no dressing be put upon the land; that where the first year produced only three quarters and a half, the third year produced five quarter: This he attributes to hoeing and destroying the weeds, which was done three or four times in each year, and the tops of the beans being cut off, just as they were going to blossom. It may be worth the trial on small spots of ground, but it is a thing never done by farmers.

I hold trench-ploughing to be good in the culture of beans, where the depth of mould will admit of it, as it gives the plant room to strike deeper than in the ordinary method of ploughing, but I am no advocate for turning up the gravel or clay among the mould.

CHAP.

C H A P. VIII.

O F P E A S.

PEAS generally flourish most in light, dry, sound land, but tolerably good crops may be procured on cold, brick earth, loams, or clays.

There are various sorts of peas, but those usually sown by farmers, are white peas and hog peas; the first is well known, but, of hog peas, there are also two or three sorts, grey, dun, blue, &c.

There being other crops that pay better than peas, farmers generally sow them on poor land, such as is grown foul, and perhaps out of heart; but, like every other crop, I am persuaded, they would pay for a certain degree of cultivation; but over-
dressing

dressings would make the haulm grow large and rank, and the crop will suffer by it. Wet seasons are always prejudicial to peas; for the above reasons, peas are not always a part of the farmer's crop.

In light land, drilling them may be a good method, as, in that case, if necessary, they can be better hoed, and a future crop also will receive a benefit from such hoeing; but in strong stiff lands, they must be sown broad-cast. Indeed sowing broad-cast will, all things considered, produce a greater quantity at harvest than drilling; and, as it is attended with less trouble and expence upon the whole, perhaps it may be as well, if not better.

The quantity sown on an acre of ground of the white peas, is generally three bushels; but Mr. Young, from his experiments, finds, that four bushels and a half of
white

white peas, and five bushels and a half of hog peas, are a more proper quantity; for, in wet seasons, if a quantity of seed sufficient to stock the land be not sown, a proportion of weeds will occupy their place, and where farmers do not hoe their peas a thick crop is necessary to cover the ground, and smother the weeds.

The customary time of sowing, is about the middle of March, and that of cutting, in August. When they begin to ripen, it will be necessary to station a boy in the field to frighten away pigeons, and other birds, otherwise they will carry away half the crop. The same attention must be paid to the time and manner of cutting, as was pointed out in the case of beans. A good sample of peas, is when they are not shrivelled, but look large, plump, and fair.

An

An estimate of an acre of broad-cast
peas.

E X P E N C E S.

	£.	s.	d.
Rent, tythe, and taxes -	1	0	0
Team, &c. - - -	1	0	0
Two bushels and a half of feed,			
at four shillings - -	0	10	0
Weeding and water-furrowing -	0	2	0
Frightening birds - -	0	2	0
Hoeing - - -	0	5	0
Cutting - - -	0	3	6
Carrying in - - -	0	2	0
Threshing three quarters, at one			
shilling and two-pence -	0	3	6
	<u>£.3</u>	<u>8</u>	<u>0</u>

PRODUCE.

P R O D U C E.

			£.	s.	d.
Three quarters, at thirty - two					
shillings per quarter	-	-	4	16	0
Expences	-	-	3	8	0
Profit	-	-	1	8	0

For the culture of peas, the land should undergo three or four ploughings, and many harrowings, to bring it into as fine a tilth as possible.

Drilled peas, like beans, should be twice hoed, which will be an additional expence of five shillings an acre, but a future crop will be benefited by it.

C H A P.

CHAP. IX.

OF TARES.

TARES are cultivated for three or four purposes. Some sow them for the seed; others to cut green for horses and other cattle; some make the haulm into hay, for winter feed, and others feed it off with sheep and lambs in the spring. In whichever way, however, the crop is consumed, though it seldom forms part of a farmer's regular course of crops, it is, nevertheless, far from being an unprofitable one.

There are two sorts, winter tares, and spring tares; the first are a hardy kind, and generally sown before or about Michaelmas, to cut green for horses in the spring, or stand for seed.

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If

If they are sowed in the month of August, and designed for seed, they will be fit to cut early in the month of August following, after which there will be sufficient time to prepare the land for wheat; or when the tares are carried off the ground, it may be ploughed up, and sown with turneps, by which means two crops are produced from the same ground in one year.

But the best farming is to sow them at Michaelmas, or not later than the second week in October; about two bushels, or rather better, to an acre, and that upon land that has been fallowed and dressed: from such fallow and dressing, may be expected a very luxuriant crop, that will rise above, and smother every weed that might either be carried upon the ground in the dressing, or not be destroyed by the fallow. This crop should be cut for hay in the beginning of June; when, after two ploughings,

ings, the land may be sown with turneps, and being eaten off by sheep at Michaelmas, the ground is in the best order that can be for a crop of wheat, as it will then be perfectly clean, and in good heart; for the dressing the sheep leave, will amply compensate for the crop of tares, which not being suffered to stand for seed, will not draw the ground, but leave it in the finest order. Thus, also, two crops will be gained in one year, without injuring the land.

Whether spring tares are sown for hay, or for seed, the quantity of seed, and time of sowing are the same. As one great advantage in cultivating this pulse, is bringing the ground into fine order for wheat or barley; it would be well if the land were dressed for it, and care taken to sow it early, that there may be a thick crop, sufficient to cover the ground and smother the weeds. March is the proper time for sowing, and
the

the quantity, two bushels and a half per acre. Once or twice ploughing will do for tares, which should be rolled after they are well harrowed in. They require no further trouble till harvest, except cutting out the thistles, if any should rise, for every other weed a thick crop of tares will destroy; and such is the advantage of a thick crop, that if you cut for hay, they admirably prepare the ground for a crop of wheat, breeding that putrid fermentation in the soil, which renders it as fertile and as mellow, as after the best fallow.

If tares are designed for hay, the time of cutting them is when they are in full blossom. If they are left longer, they draw the land too much, and make not such good hay as when they are in the highest state of succulency. Though some contend, that the hay will prove heartier food, if they stand to pod, and the pods to fill; that in this case, horses eating such hay, will

will require less corn. This I believe to be the case, but I am a strong advocate for keeping the ground in good condition. If the crop be got in without rain, tare-hay is better than any common hay, but rain injures it a great deal.

The following are the expences and profits of an acre made into hay.

EXPENCES.

	£.	s.	d.
Rent, tythe, and taxes	-	11	0
Team, &c.	-	1	0
Seed, two bushels and half, at			
four shillings and six-pence	0	11	3
Weeding, perhaps, or water-fur-			
rowing	-	0	1
Mowing	-	0	1
Making, &c.	-	0	3
		<hr/>	<hr/>
	£	2	18

PRO-

P R O D U C E.

			£.	s.	d.
Two loads and a half of hay, at					
thirty-five shillings	-		4	7	6
Expences	-	-	2	18	0
Profit	-	-	1	9	6

In farms where there is not a sufficiency of grass land, a field or two of tares for hay must be very advantageous, especially as they leave the land in better state than when they were sown. Besides, if they are not to be followed by a crop of wheat, the land may be immediately ploughed up, and sown with turneps, which will produce an additional profit of near thirty shillings an acre, as may be seen in the chapter on Turneps, and leave the soil in fine state the next year, for barley, oats, or any other spring crop.

The

The following estimate supposes the tares to stand for seed.

EXPENCES.

	£.	s.	d.
Rent, &c.	1	0	0
Team, &c.	1	0	0
Seed, as before	0	11	3
Weeding, &c,	0	1	6
Mowing	0	1	6
Getting in	0	1	6
Threshing two quarters, at two shillings and fourpence	0	4	8
	<u>£3</u>	<u>0</u>	<u>8</u>

PRODUCE.

	£.	s.	d.
Two quarts of tares, at thirty-six shillings	3	12	0
Expences	3	0	8
Profit, besides the haulm,	<u>0</u>	<u>11</u>	<u>4</u>
	Now,		

Now, on the fairest calculation, here is evidently a loss of eighteen shillings and two-pence between the two profits, which might have been avoided, had the tares been cut for hay; besides the injury the ground receives by a seed-crop, and the loss of so much dung, as cattle eating that hay upon the farm would have yielded. An acre may possibly produce two quarters and a half, which is an additional profit of about seventeen shillings; but this is not, in my opinion, an adequate compensation for drawing and impoverishing the land.

C H A P. X.

O F T U R N E P S.

TURNEPS, like tares, is one of those meliorating crops, whose culture cleans the land, and, at the same time, enriches it. They thrive best in light soils, but succeed tolerably well on stiff ones. Very strong clays are the only soils in which they will not grow to advantage.

Farmers consider a crop of turneps as a summer fallow, and as the best preparative for either wheat or barley. To obtain a good field of turneps, they plow the land four or five times, harrow it till it is as fine as they can make it, and then dress it. All this is done with the same view that I recommended tares, viz. to procure a

M luxuriant

luxuriant crop, that will smother the weeds which the dung carries into the field with it, in order that the succeeding crop, whether of wheat or barley, may be clean and plentiful. Besides, as this crop is fed off by sheep, the better it is, the longer will it maintain a given number of sheep, and of course the greater quantity of dressing such sheep will leave behind them. It is generally a losing crop for that year, but the advantage hereafter reaped, amply repays the loss.

The most proper time to sow them, is about Midsummer, or soon after, so that if the spring be fine, there is sufficient time to clean the ground. Though we wait a week or two for it, a dripping time is best for sowing, for, without some rain, the seed may not grow; in very dry seasons, as soon as they are out of the ground, the fly is apt to destroy them; and, when this is the case, we have no other resource
than

than to harrow the land, and sow it afresh. If they escape the fly, as soon as they put forth the rough leaf, they should be hand-hoed with a nine-inch hoe, cutting them up where they are too thick, and leaving them at about nine inches distance from each other. About a month after, they should be hoed a second time, to destroy the weeds : by this time, they will be of sufficient growth to keep the weeds down, and smother them. They require no other care till they are either drawn for cattle, or eaten off by sheep. One pound of seed per acre is the quantity usually sown : and as there are two or three sorts of turneps, some prefer the green round, and others the tap-rooted, as growing to a larger size. In a tolerable good crop, the average weight of an acre of turneps, is about thirty or thirty - two tons. They rather improve in weight from December to January, but decline in weight from
January

January to March. In my neighbourhood, where farmers have not a sufficient stock of sheep of their own, they sell their turneps to those who have; and the price of an acre varies in proportion to the quantity of feed there is, from twenty-five shillings to forty shillings; and they never think of disposing of their crop any other way. Those who draw them, to fatten cattle, may possibly turn them to greater advantage; Mr. Young says, double; but, as every farmer has not money to buy stock to fatten, he is obliged to give up that thought, and content himself with enriching his land, by folding of sheep upon it. For ten acres of turneps would require a stock of one hundred and twenty-four pounds in cattle, to consume them.

For

For curiosity, let us see what is lost on an acre of turneps well fold.

EXPENCES.

	£.	s.	d.
Rent, tythe, and taxes - - -	1	0	0
Team, &c. - - -	1	0	0
Filling dung-cart and spreading,			
suppose - - - -	0	2	6
Seed, one pound - - -	0	0	6
Twice hoeing ; first time six shil-			
lings, second four shillings -	0	10	0
	<hr/>		
	2	13	0
Supposing the acre to sell for	1	15	0
	<hr/>		
The loss is - - -	0	18	0
	<hr/>		

But even here is a gain of twenty-four shillings and six-pence, deducting ten shillings and six-pence, the expence of the turneps, from one pound fifteen shillings, the price they sell for), when we consider that,

that, without this crop, the land would have lain idle ; and, when we take into the consideration the advantage the next crop or two receive, from clean enriched land, we shall have no reason to complain.

In fattening lean stock, a ton weight	s.	d.
of turneps is worth about	-	2 2
In feeding lean stock, about	-	2 6
In feeding sheep on the land	-	1 0

Stall-fed cattle, besides a rack of hay, will daily eat, in winter, between a third and fourth part of their own weight in turneps.

CHAP. XI.

OF CLOVER.

THE introduction of clover has turned out a great treasure to the farmer, it being one of those crops that pays well for the tillage; and, at the same time, enriches and meliorates the land. Its profits are reaped three ways, being either fed, cut for hay, or suffered to stand for seed. If the farmer has sufficient stock to eat his clover green, or has money to purchase such a stock, he will reap a double advantage by so doing; for an acre of clover fed off green, will maintain a given number of cattle, much longer than it would, if made into hay. Besides, as in this case it does not stand to flower, it draws the ground less, and the dressing left by the cattle is no inconsiderable advantage.

vantage. If cattle are turned in, in the beginning of June, three acres of clover (supposing these three acres, if cut and made into hay, to produce four loads and a half cut out of the rick) will fatten and maintain nine horses and four cows, for four weeks; which, at four shillings a horse, and two shillings and six-pence a cow, per week, amounts to nine pounds four shillings. Now, in this time, they would eat six loads of hay, worth twelve pounds; or, were these three acres cut, and made into hay, reckoning the hay at forty shillings a load (and it is always five shillings less in value than a load of meadow hay), and deducting ten shillings an acre for mowing, making, thatching, stacking, and binding, it leaves a profit only of seven pounds ten shillings; and, should a purchaser require it to be carried ten miles, such carriage would be two pounds five shillings, and reduce the profit to five pounds five shillings. But, was such a first crop of clover (for I

am now only speaking of the first cutting, I say, was such a first crop) cut day by day, carried into the stable, or farm yard, and given to horses or cows there, it would turn out still more advantageous, for it would maintain twenty horses for four weeks (I speak this from experience); which twenty horses, in the same time, would consume eleven loads of clover hay, worth twenty-two pounds. Here, indeed, the dressing is not laid upon the land; but the horses would in that month, if littered down with about seven loads of straw, yield forty loads of dung, which would dress four acres of land well; a circumstance that would amply pay for cutting and carting home, and carrying the dung out again upon the land. Besides, a team so kept upon green meat, would require very little corn; half the quantity would do; an object of importance to the farmer,

Let us take a second view of this.

Three acres of clover, fed off by cattle
on the land.

P R O F I T.

	£.	s.	d.
Nine horses keeping for four weeks, at four shillings each	7	4	0
Four milch cows ditto, at two shillings and six-pence	-	2	0
		<hr/>	
		9	4
		<hr/>	

or 3l. 1s. 4d. per acre.

The dressing these will leave, will be
equal to about two loads of dung per acre,
and the land not exhausted.

The same crop mowed the first time for
hay.

E X P E N C E S.

	£.	s.	d.
Mowing	0	6	0
Making and stacking	-	0	12
Thatching, on an average	-	0	3
		<hr/>	
Carried over	1	1	0

(87)

£. s. d.

Brought over 1 1 0

Binding, four loads and a half,

at two shillings - - - 0 9 0

Carrying to the purchaser - - - 2 5 0

3 15 0

PRODUCE.

£. s. d.

Four loads and a half, at forty

shillings - - - 9 0 0

Expences - - - 3 15 0

Profit - - - 5 5 0

or 35s. per acre.

EXPENSES.

No dressing here, and the land exhausted.

The

Carried over 1 1 0

The same crop cut green, and carried into the stable,

	£.	s.	d.
Twenty horses kept for four weeks, which, if fed on dry meat, would eat eleven loads of clover hay, worth forty shillings a load, is equal in value to	-	-	22 0 0
Forty loads of dung, at five shillings	-	-	5 0 0
			<hr/>
			27 0 0

Extra expences in carrying the dung on the land, and spreading it on four acres (the team is reckoned at large upon the farm)

	-	-	-	0 8 6
Profit	-	-	-	<hr/>
				26 11 6

or 8l. 17s. 2d. per acre.

Here also the land is not exhausted, but exceedingly well dressed. I have reckoned

reckoned nothing for labour in cutting, as the carter and boy will do it: nor have I brought straw into the account, as the farm will produce sufficient litter, that could not be sold, bean haulm, fern, &c. Nor have I here estimated the saving in the corn given to the horses, which is considerable; nor either rent or team, these being equal in every case.

Whilst I am upon the article of clover, and mentioning the feed of it for cows, I must not omit the danger of turning them in, while it is young and high. Cows are internally differently formed from horses; a cow has not only a stomach, but a paunch, designed by nature as a receptacle for her food. Here she deposits it for a while, without mastication; and when she has eaten sufficient, she, at her leisure, brings it a second time into her mouth, chews it, and conveys it into her stomach, where it is digested, and carried off. Clover

reckoned

is

is a very loose vegetable, full of air, particularly when young, and in showery weather; and as the paunch has not the same digestive power with the stomach, checking that fermentation that lets loose the air; if she eats heartily of young clover, and fills her paunch by drinking soon after; when fermentation takes place, and the air is let loose, she will swell prodigiously; and from such swelling, the vital system will be impeded, the circulation of the blood stopped, and the animal will die in fifteen minutes. If she has not filled herself too full, driving her and hurrying her about, will often relieve her; but should she have overloaded her paunch, and drank upon it, there is no remedy but one, which, though severe, is generally safe and effectual (having had occasion to try it, I speak from experimental knowledge); it is, that of making an incision with a pen-knife through the flank into the body of the paunch, and introducing the pipe of a funnel

funnel into the orifice, thus letting out that air, that otherwise would destroy the animal. By keeping the hole open, till the complaint ceases, we remove the danger; and by piercing the hide with an awl, sewing up the wound, and the application of a plaister, it will soon heal. The place to make the incision, is in the fleshy part of the left side or flank, at an equal distance from the short ribs, the spine of the back, and the hip bone; it should be pierced till the air issues out freely. Sheep are formed like cows; of course, the same caution should be taken with them. But let the bulk of the grass be first eaten down by horses, and there is no danger; or, it is said, if they are not turned in while the dew is on the grass, it may be done with safety.

Clover is a fine thriving food for hogs: where there is a pond in the field, which they can always have recourse to, I do
not

not know any better way of disposing of the crop. But water is so necessary, that without it, it is in vain to think of it. Any part of a field may be hurdled off with gate-hurdles ; and the only trouble is, taking good care that they do not break out. Some are apt to think hog-dung prejudicial ; but it is an erroneous notion. Being very full of salts, where the land is richly dressed with it, the first crop may be rank, but future crops will feel its effects for years. I am of opinion, that there cannot be more profitable husbandry, than by purchasing sows forward with pig, turning them into clover, suffering them to pig there, and continue with their pigs till they are three or four months old, and then selling them for store. An acquaintance of mine told me, that having once five acres of clover, a good crop, with a pond in the field, and well fenced in, he purchased in May ten sows of the large breed ready to pig, which cost him thirty pounds ;

pounds; that he turned them into this field about the middle of the month, kept them there till the middle of September, and then sold them; that the ten sows brought him ninety-eight pigs, which he sold for fifteen shillings each, and the sows for two pounds ten shillings each; that they folded the land like a flock of sheep, and so richly manured it, that it wanted no dressing for near twenty years. After the clover, he sowed it with wheat, which was so rank, as to fall, and turn out of no value; but the year following, he sowed it with wheat again, and had a prodigious crop.

Supposing five acres under this management.

EXPENCES.

	£.	s.	d.
Rent, tythe, and taxes	-	-	5 0 0
Team, &c.	-	-	5 0 0

Carried over 10 0 0

0

						£.	s.	d.
					Brought over	10	0	0
Seed	-	-	-	-	-	1	2	6
Ten fows	-	-	-	-	-	30	0	0
						<u>41</u>	<u>2</u>	<u>6</u>

PRODUCE.

						£.	s.	d.
Ten fows, at fifty shillings	-					25	0	0
Ninety - eight pigs, at fifteen								
shillings	-	-	-			73	10	0
						<u>98</u>	<u>10</u>	<u>0</u>
Expences	-	-	-			41	2	6
						<u>57</u>	<u>7</u>	<u>6</u>

or 11l. 9s. 6d. per acre.

The following is an estimate more
to be relied on; that of an acre hurdled
off

off and fed, from the first week in May,
to the last in September.

E X P E N C E S.

	£.	s.	d.
Rent, &c. - - -	1	0	0
Team, &c. - - -	1	0	0
Seed, nine pounds, at six-pence	0	4	6
	<hr/>		
	2	4	6
	<hr/>		

P R O D U C E.

	£.	s.	d.
Keeping four hogs, eight months old, at four-pence a week, twenty-eight weeks	1	17	0
Four ditto, ten months old, at six-pence - - -	2	16	0
Two heifers kept six weeks, at one shilling each - -	0	12	0
	<hr/>		
Carried over	5	5	0

			£.	s.	d.
		Brought over	5	5	0
Two horses kept six weeks, at					
three shillings each	-	-	1	16	0
			<hr/>		
			7	1	4
Expences	-	-	2	4	6
			<hr/>		
Profit	-	-	4	16	10
			<hr/>		

besides enriching the ground.

Clover, in general thrives best on light barley land. It is usually sown with the second crop after a fallow, with either barley or oats, but sometimes with wheat; and the richer the land, the better the crop. After the barley or oats are sown, and harrowed in, they customarily sow the clover, sometimes by itself, particularly if it be designed for seed, and sometimes mixed with artificial grasses for hay. When sown, it should be rolled. If clover is sown with a wheat crop, it should be put into

into the ground in the month of March, before the wheat is too high. This is done by harrowing the ground, sowing, and rolling it. The harrows will not damage the wheat. But wheat is a crop that does not afford it sufficient shelter; of course, it is bad husbandry.

All things considered, it is much more advantageous to sow clover with a first crop after a turnep season, or a fallow, than with the second, as is commonly done; for, the land being then clean, and in good heart, the crop will be considerably greater, and the clover will stand a second year very well; especially if, in such second year, ashes, or a light dressing of dung, be bestowed on it. Indeed, clover is one of those crops, which will pay for very ample manuring; but is, at the same time, liable to be injured by unfavourable weather; a dry seed time, or a wet harvest. In dry summers, though the crop
be

be small, it will weigh heavy, and cattle will thrive on it better than when the crop is larger, it being sweeter, and fuller of nutriment.

The quantity of feed sown on an acre of ground, is generally from nine pounds to fourteen; the average quantity ten pounds. But, Mr. Young asserts, from a variety of experiments that he made, that in poor land twenty pounds, and in clean rich land, fifteen pounds an acre, is the most advantageous quantity; as in rich land the roots will spread more, and leave less room for weeds, or natural grass.

There are several sorts of clover, viz. broad clover, which bears a red flower; the white Dutch, which bears a white flower; and the trefoil, which bears a yellow one. The first is what farmers generally sow, as growing higher, and producing a larger crop. The white Dutch,
and

and trefoil, are better for laying down lawns and meadows, as they will matt, and grow thicker at bottom; but they are not profitable to cut for hay. There is also another species of clover, called cow-grass, from its being less liable to spring cows that feed on it. This last, though sown in March, makes but little appearance till Midsummer, and can be cut but once; but yet grows to a great height, and produces in general large crops.

The profits of a crop of clover, as I said before, are reaped three ways; by feeding it with cattle, cutting it for hay, or suffering it to stand for feed. I have already pointed out the profits arising from feeding; let us next see, what it will produce when cut for hay; and in this estimate, I will suppose an equally good crop with that I considered before as fed, viz. to produce two loads and a quarter per acre, at the two cuttings; I mean two loads and a
quarter

(100)

quarter out of the rick; for clover is a
grass that will lose considerably in its
weight by drying.

An estimate of an acre.

EXPENCES.

			£.	s.	d.
Rent, &c.	-	-	1	0	0
Team, &c.	-	-	1	0	0
Seed, ten pounds	-	-	0	5	0
Mowing	-	-	0	1	9
Making and stacking, &c.			0	4	0
Mowing, making, &c. the second cut	-	-	0	5	9
Binding two loads and a quarter			0	4	6
			<hr/>		
			3	1	0
			<hr/>		

PRODUCE.

P R O D U C E.

				£.	s.	d.
Two loads and a quarter, at						
thirty-five shillings	-	-		3	18	9
After-feed	-	-	-	0	10	0
				<hr/>		
				4	8	9
Expences	-	-	-	3	1	0
				<hr/>		
Profit	-	-	-	1	7	9
				<hr/>		

A load of clover is generally five shillings under the market-price of meadow hay; but should hay be dear, this crop will be more profitable.

It should not be cut till it has done flowering; and begins to decay at the bottom; nor, should it be over-dried in the making.

When designed for seed, it should be first cut for hay, and eight or ten days

P

earlier

earlier than when the second cut is made for the same purpose. A seed-crop is a very precarious one. A wet harvest will destroy it, and, if it does not flower well, the quantity will be small. The second growth generally determines the farmer in this matter. If the herbage be large, it should not be left for seed, as it will be apt to fall before the seed is ripe, and damage the crop. When the herbage is short, and blossoms full and large, there is a good prospect of reaping a profitable harvest. In this case, it should stand till it is quite ripe. Three bushels and a half of seed from an acre, is a good return.

E X P E N C E S.

	£.	s.	d.
Rent, &c. - - -	1	0	0
Team, &c. - - -	1	0	0
Seed, ten pounds, at six-pence	0	5	0
Mowing, making, stacking, &c.			
the first cut for hay - -	0	5	9
	<hr/>		
Carried over	£2	10	9

	£.	s.	d.
Brought over	2	10	9
Mowing, &c. the second time			
for seed - - - -	0	3	9
Threshing three bushels and a			
half, at five shillings per			
bushel - - - -	0	17	6
Binding one load and a half of hay	0	3	0
	<hr/>		
	3	15	0
	<hr/>		

P R O D U C E.

	£.	s.	d.
One load and a half of hay, at			
thirty-five shillings - -	2	12	6
Three bushels and a half of			
feed, each bushel containing			
sixty-five pounds, at six-pence			
per pound - - - -	5	13	9
	<hr/>		
	8	6	3
Expences - - - -	3	15	0
	<hr/>		
Profit - - - -	4	11	3

I have rated it here at six-pence per pound : it sometimes sells for more ; but, often so low as three-pence.

A bushel of seed generally weighs from sixty to seventy pounds, according to the size of the grain. The smaller the seed, if good, the better, and the heavier the bushel weighs.

When a crop has stood for seed, it will produce but a small crop of clover the next year ; it should, therefore, be ploughed up, and sown with wheat. Farmers, in general, say the ground is in as good heart for wheat after it has stood for seed, as if it was cut for hay ; but I am of a different opinion. When threshed, the chaff and haulm (if it may be called so) will serve to fodder cattle in the winter.

C H A P. XII.

OF THE COURSE OF CROPS.

THE succession of crops is a principal matter to be attended to. Different plants draw different nourishment, and from different parts of the land. Those with horizontal roots from one part, those with tap-roots from another. Some require cleaner ground than others, and some, land in better heart. Again, some soils are better adapted to certain crops than others. All this obliges the farmer to study a little the nature of his land, and the method of cropping it : and experience has taught him, that it is most profitable, after the ground has been well fallowed and cleaned, to pursue the following method of cropping.

On

On strong, stiff lands, either

1. Wheat.
2. Oats and Clover.
3. Clover.
4. Beans or Wheat.
5. Turneps, or a *fallow*.

or,

1. Tares,
2. Wheat.
3. Oats and Clover,
4. Clover.
5. Clover.
6. Beans or Wheat.
7. Turneps, or a *fallow*.

or,

1. Beans.
2. Oats and Clover,
3. Clover.
4. Wheat.
5. Peas.
6. Turneps, or a *fallow*.

Where the land is naturally rich, or
made so by ample and frequent dressings,
a summer

a summer fallow may not be necessary, which is designed only to rest the ground, and destroy the weeds. Dung naturally fills the land with weeds; but a crop of turneps or tares will smother them, and render it clean again: for this reason, I recommend dressing the land for turneps, or tares, in preference to wheat.

Mr. Young tells us, that he has tried beans upon the same ground for three or four years successively, and had, every future year, a better and a better crop. This he attributes to hoeing the land two or three times in the course of the summer. There is no reason to doubt his veracity, but it is not the common practice of farmers; indeed, where the soil is naturally rich, where it has been dressed for wheat, and the crop has been lodged from its luxuriancy, farmers have sowed the same land with wheat again the next year, and found their account in it; for, if land
be

be too rich for wheat, it is apt to lodge with wind or heavy rains, and be considerably damaged.

On light soils, the course of crops is varied, such as follows:

1. A *fallow*.
2. Wheat.
3. Barley and Clover.
4. Clover.
5. Oats, or Rye, or Peas.
6. A *fallow* again, or Turneps.

- or,
1. A *fallow*.
 2. Barley and Clover.
 3. Clover.
 4. Wheat.
 5. Oats or Rye.
 6. Peas.
 7. A *fallow*.

If the land be naturally poor, the more it is rested the better; of course, the longer it

it

it lies under clover, the larger will be the crop that follows it. Indeed, as poor land is generally low rented, laying it down in pasture is the most profitable way of farming it; especially if dressing cannot be readily procured. By feeding, land is annually manured and enriched; and, at the same time, pays no great tythes; a circumstance very pleasing to the occupier, where tythes are paid in kind. Instead of a fallow once in six or seven years, it will be found frequently necessary to let poor land lie a year uncropped, once in three or four years; for if (in the farmer's phrase) it be overdriven, without a much greater quantity of manure than he generally has to bestow upon it, it will often produce little more than the feed, be the ground ever so clean.

C H A P. XIII.

ON THE PROFITS OF A FARM IN GENERAL,
AND GRASS LAND IN PARTICULAR.

LET us now recapitulate the profits on the different crops I have mentioned; and it will shew the fair advantage a gentleman may expect to reap from a farm of one hundred and fifty acres of arable land, under good management. As we shall take a view of seven successive years, in the course of which a round of crops takes place, it is immaterial whether we suppose the whole farm cropped the same year with the same kind of corn, or with different sorts: the produce at the seven years end will be the same.

We will begin with stiff land, on which the course of crops will be, after a fallow,
1. Tares. 2. Wheat. 3. Oats and Clover.
4. Clover.

4. Clover. 5. Clover. 6. Beans. 7. Turneps,

	£.	s.	d.	£.	s.	d.
1. The profit of 150 acres of Tares, cut for hay, at 1 9 6 is	221	5	0			
2. Ditto, of 150 acres of Wheat, at 2 10 0—	375	0	0			
3. Ditto, ditto Oats, at 1 19 10—	298	15	0			
4. Ditto, Clover cut for Hay, at 5 5 0*	787	10	0			
5. Ditto, Clover fed, at 5 5 0—	787	10	0			
6. Ditto, Beans, at 1 13 0—	247	10	0			
	<hr/>			2717	10	0

7. Loss on 150 acres of Turneps fed off by
sheep, at 18s. 135 0 0

Profit 2582 10 0

The waste corn at the barn door will yield in
poultry 10l. a year; which, in seven years,
will give a profit of 70 0 0

Total profit £.2652 10 0

Divide then 2652l. 10s. by 7 years,
and it will appear, that a farm of 150 acres
will yield an annual profit of 379l. but,
if the land be naturally poor, and it be
necessary

*In the chapter on clover, I have pointed out that
such a crop may be made to produce a larger profit
than five guineas an acre, but I have taken it here at
medium value,

necessary to make the seventh year a fallow; instead of 135*l.* loss on the turneps, we must reckon the loss of rent and team, which will be 300*l.* this will make a difference of loss to the amount of 165*l.* and reduce the 2652*l.* 10*s.* to 2487*l.* 10*s.* which divided by 7, leaves the annual profit only 355*l.* 7*s.*

Now, supposing the farm to consist of light land, we must crop it as follows, after a fallow. 1. Tares. 2. Wheat. 3. Barley and Clover. 4. Clover. 5. Peas. 6. A fallow. Then

	£. s. d.	£. s. d.
1. The profit of 150 acres of Tares cut for hay, at 1 9 6 will be	221 5 0	
2. Ditto, of 150 acres of Wheat, at 2 10 0	375 0 0	
3. Ditto, ditto, Barley, at 3 5 6	491 5 0	
4. Ditto, ditto, Clover at 5 5 0	787 10 0	
5. Ditto, ditto, Peas at 1 8 0	210 0 0	
Profit on poultry for six years, at 10 <i>l.</i> a year	60 0 0	
	<hr/>	
6. Loss on a fallow	300 0 0	
	<hr/>	
Neat profit	£. 1845 0 0	

1845*l.* divided by six years, gives an annual profit of 307*l.* 10*s.*

As most farms consist of some meadow,
take the following estimate of an acre.

E X P E N C E S.

	£.	s.	d.
Rent, &c. as before - -	1	0	0
Team, &c. as before -	1	0	0
Mowing - - -	0	2	6
Making and stacking,	0	5	0
Thatching - - -	0	1	0
Binding one load and a half of hay - - -	0	3	0
	<hr/>		
	2	11	6
	<hr/>		

P R O D U C E.

	£.	s.	d.
One load and a half of hay, at forty-five shillings -	3	7	6
Latter-math - -	0	15	0
	<hr/>		
	4	2	6
Expences - - -	2	11	6
	<hr/>		
Profit - - -	1	11	0
	<hr/>		

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The stubbles, &c. of a farm of one hundred and fifty acres, will keep thirty sheep all the year round, of course an additional profit arises of more than 40*l.* a year.

In short, a tolerable good farm, whether it consists of a light or a stiff soil, will pay upon an average, with good management, forty or fifty shillings an acre; provided the occupier holds sufficient land to employ his team fully.

The nearer a farm is to a market, and to the convenience of getting manure cheap, the more valuable it is.

Let me recommend it to every occupier of land, whether gentleman or farmer, to keep a regular account, debtor and creditor, not only of his farm in general, but of every field in particular, with a memorandum annexed of the time the seed was sown, the harvest reaped, the favourable-
ness

ness or unfavourableness of the season, the quantity of ploughings the land received, the dressing given it, and every other particular. By a recourse to this, at future times, he will be able to ascertain the condition of his land, and how far he proceeded upon a good plan, or fell upon a wrong one; and, of course, whether he should pursue the same method in future or not. By so doing, his business will become an amusement, and his farm not only be profitable, but instructive.

The following is a ruled page for that purpose, and a copy of such an account kept.

The

REMARKS.

EXPENCES.

PRODUCE.

CHAP.

This Field, being very foul, and out of heart, was fallowed and dressed; eight loads to an acre; it received five ploughings, and was well harrowed, and the rubbish carted off.

Sown the first week in September; reaped the second week in August.

Dry feed-time, but rather a wet harvest; not housed till the first week in September. Rather blighted under the wet hedge.

N.B. The chaff eaten by the team.

Produced three quarters per acre.

£. s. d.

£. s. d.

Rent, tyth, and taxes,

Nine quarters of wheat sold at forty shillings

18 0 0

Team, two years -

Four loads and a half of straw, at fifteen

3 7 6

Six bushels of feed, at

shillings per load

3 7 6

five shillings -

3 7 6

Labour in carting and

21 7 6

Spreading manure, &c. 0

21 7 6

Draining -

Expences -

16 18 0

Reaping -

Profit -

4 9 6

Additional labour in carting

4 9 6

Threshing nine quarters

or 11. 9s. 10d. per

acre.

at three shillings,

4 9 6

cleaning included

4 9 6

Binding four loads and

4 9 6

a half of straw

4 9 6

Expences in felling

4 9 6

£. 16 19 0

C H A P. XIV.

OF PLOUGHING AND HARROWING.

IT is necessary to make some few observations on this head, both as to the nature of the ploughing, the time when, and the number of ploughings.

I would, in the first place, recommend it to every occupier of land, to employ a very good ploughman, one who knows how to plough and sow well, and one who will not want watching. A team of two horses in light, and four in stiff land, will plough an acre or more, in the course of a day; one acre is the customary allotment of a day's work, and is generally performed in eight hours. The team usually leaves work at two o'clock; but it is better for the

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horses

horses, in summer time, to get to work at four or five, and quit before the heat of the day.

All that is necessary for a master to take care of, is, that his ploughman does not ride upon the handles of the plough, but plough the ground as deep as the plough will effect it, or as the upper staple or layer of the land will admit.

Plants that have tap-roots, as beans, carrots, &c. thrive best in deep earth, which has induced many to trench-plough their land; but, for corn, the common depth of five inches is preferable to deeper ploughing. As I said before, I am no advocate for turning up the clay or gravel, and mixing it with the mould; and for this reason, that it will require a long series of tillage, to bring such soil as is thus turned up into the same state with the surface; and it is contrary to the general practice of husbandry.

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We are next to take care that the ridges lie handsome, round, and even. In dry soils, the ridges may be broad and flat; but in wet moist ground, the higher and narrower the ridges are, the drier it will lie. In wet clayey soils, I have ever found three or four-bout lands the best, as in harrowing, the horses may walk in the furrows, and thus avoid poaching it. The furrows between the ridges should, when the work is done, lie clean, so that the water can run freely off; and water-furrows should be made in all depending places, to carry it clean away into the ditches. This cannot be well done but by the spade, and men should be employed for the purpose; for unless the crop lies dry, it will turn out a poor one. It is necessary, therefore, to drain all wet flanks; for where the water stands, the crop commonly fails. For the same reason, at the last ploughing, in moist rising land, the furrows should be up and down the hill; but
in

in hungry, burning soils, it may be proper to leave the ridges across the hill, in order to hold the water and the dressing, which otherwise might, in heavy rains, be washed away.

As to the time of ploughing, this must be, in some measure, regulated by the weather; for, in wet soils, there are times when the plough cannot go upon the land. In stiff clays, where a winter fallow is necessary to mellow and break the clods, the stubbles should be always broken up in autumn; but, where winter fallows are not necessary, autumnal ploughings may, for want of time, be omitted; especially when the ground is designed for beans or turneps the next year. Such a crop, receiving no very great advantage from ploughing in autumn, the stubbles may as well be left for the feed of sheep; for autumnal stirrings are designed to destroy the roots of weeds by frosts, and to pulverize the land.

This

This is more necessary for barley or oats, than for a crop that can be hoed, as hoeing the ground will effectually destroy the weeds. But, in wet soils, when such autumnal ploughings are given, care should be taken to ridge up the land, and water-furrow it, so as to lay it dry, otherwise, where we mean to do good, we shall chill the land, and do it a great deal of harm.

Farmers vary in their opinions respecting the number of ploughings on different soils. In strong lands, ill adapted to certain crops that thrive best in light ones, as turneps, clover, barley, peas, &c. the more we pulverize the soil the better, which cannot be done, but by many ploughings, rollings, and harrowings; and where we wish to summer fallow, and clean the land from weeds, it is only to be done by frequent stirring it; but, when we mean to sow it with such grain as delights in
strong

strong land, as wheat, beans, oats, &c. many ploughings are not only unnecessary, but may be injurious. The same reasoning will hold good in light land, provided it be clean : one ploughing is better for wheat, beans, or oats, than three ; but, where it is necessary to clean the land, as in fallows, or turnep seasons, if the farmer has time, and can do it with his own team, so as not to bestow more expence upon the land than it will pay, he cannot well plough it too much.

All that is necessary to say with respect to harrowing is, that every farmer should have three pair of harrows of different sizes: a large heavy pair for three or four horses, a smaller pair for two horses, and a less pair for one. The great harrows follow the plough, the next size pulverize the land, and the small harrows are chiefly used for harrowing
in

in the seed. The land being ploughed in order to clean it, we cannot well make too much use of the harrows, for it is our business to bring it into fine tilth, and not suffer a weed to grow.

If the land be not a strong clay, seven or eight acres, harrowed twice over in a place with the great harrows, is a good day's work. Smaller harrows should go three or four times in a place.

CHAP.

C H A P. XV.

OF WEEDING.

IT having been observed that, clean our land ever so well, time will naturally foul it, and that the carrying on of dung will contribute to such foulness; wherever we find obnoxious weeds rise with a crop that cannot be hoed, it should be hand-weeded, by going up the furrows, reaching across the ridges, and pulling up such weeds by the roots; for, were they suffered to seed, instead of one weed, without a fresh fallow, we should have the next year a thousand. Catlock, poppy, docks, thistles, all should be clean pulled out; and whenever we find the last, even in the hedge rows, they should constantly be cut down before they seed;

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we never can have a clean farm without; for the seed of the thistle is winged, and will fly, with the least breath of air, from field to field. Weeding the crop has saved the necessity of many a fallow, which is the loss of a year's rent, and the annual expence of the team.

Those who study the cleanness of their ground, will take care to weed their dung-hills from time to time, and sow no grain but such as is free from the seeds of weeds.

C H A P. XVI.

OF HEDGING AND DITCHING.

WHAT they call dead hedges, are the customary fences in my neighbourhood; and I apprehend, this method of inclosing fields is very general throughout the kingdom; except in countries where they have plenty of stone, of which they make walls. Gentlemen and opulent farmers, who study more the neatness of their farms, than the article of profit, will plant their banks with quicks, or white thorn. Such a fence, no doubt, is beautiful, secure, when properly grown, and, if cut with sheers once or twice in the summer, will last a great numbers of years; but it is certainly an expensive one: for, besides the annual labour of clipping, the farmer

loses

loses the advantage he would otherwise receive in the spare wood, which will supply his copper and his oven; and let a quickset hedge be ever so good, it is not impenetrable to hogs.

Dead hedges are fences made by cutting the ragged rambling hedge close down to the bank, repairing the bank by casting the contents of the ditch upon it, driving in stakes between two and three feet long, filling the lower part with bushes, and weaving it to the top, between the stakes, with hazles, or any pliable sticks of some length. A man will complete four or five rods, or perches, of such a fence in the common way, in the course of ten or twelve hours; and the customary price with us, is from three pence to four pence a rod, and two shillings a hundred for the faggots he makes with the spare wood, with the liberty of taking home a faggot, worth two or three pence more, each night, on his leaving work.

work. Such a fence, with occasional mending, will last five or six years, till the wood in the hedge is sufficiently grown to remake it. Making this fence is, in fact, attended with no expence, as the faggots obtained at every such making, are generally worth twice the value of the labour.

If the adjoining ditch be sufficiently cleaned out to let the water pass freely, the bank be smooth and tight, and the hedge even and strong, which may be known, by putting our hand upon the top, and shaking it in different places, the fence is well made.

CHAP.

C H A P. XVII.

OF THRESHING.

SOME farmers choofe this buſineſs ſhould be done by the day, others by the quarter. Thoſe who are for the firſt mode, give this as their reaſon; that when men work by the day, they generally do their work better, being in no hurry to get it done: whereas, when they thresh by the quarter, they ſeldom beat the corn clean out. Thoſe who are for the other mode, argue thus: if men thresh by the day, unleſs the maſter's eye is conſtantly upon them, they will waſte their time; and of courſe, in the end, he will pay more for his threshing than if the work was done by the quarter; and as to not beating it out clean, that is the maſter's buſineſs, he muſt examine it, and ſee that the buſineſs be

be properly executed. In most countries men wish to thresh by the quarter; as by working hard, and a greater number of hours than is the usual complement of a day's work, they can earn more money in the course of the week. This principle has made it difficult to find men to thresh by the day; and, indeed, if honest men are employed, I think it most pleasant both for master and man, that the work be done by the quarter.

Where a day's labour is rated at eighteen pence, the following prices are generally paid for threshing.

	<i>s.</i>	<i>d.</i>		<i>s.</i>	<i>d.</i>
Threshing a quarter					
of Wheat from	2	6	to	4	0
Barley ———	2	0	——	3	6
Oats ———	1	2	——	1	8
Beans ———	1	2	——	1	8
Peas ———	1	2	——	1	8

according to what the crop yields.

After

After the corn is threshed out, the cleaning, or winnowing, is paid for besides. Two men and a boy will clean a load of oats or wheat in a day.

Clover seed is from five shillings to six shillings, threshing and cleaning.

Drawing, weighing, and binding of wheat straw after threshing, one shilling a load.

C H A P. XVIII.

OF MANURING.

MANURING of land is of such importance to the farmer, that he who omits it must never expect a good crop; indeed, it is the very life of husbandry, and the cultivation of land cannot go on without it. In the neighbourhood of great towns, plenty may be had, and at a very reasonable price. But what are farmers to do, who live too remote to enjoy such an advantage? Where manure is not to be met with on the farm itself, or in its vicinage, a method must be contrived to make it; and this can be done only by keeping as large a stock of cattle as the farm will admit of, and by other modes which I shall point out.

Stable

Stable dung is one of the best manures; and, if purchas'd (where it *can* be purchas'd), is worth upon the farm from five shillings to ten shillings a load; ten or twelve of such loads is an ample dressing for an acre of land, and will keep it in good heart, if kept clean, for five or six years. To raise then the greatest quantity upon a farm from a given number of horses, is the matter in question. This is to be done by keeping them all the year round in the stable, and littering them well; in which case, a horse will, on an average, make twenty-seven or twenty-eight loads, which will manure three acres well; but to effect this, it will take four loads and a half of straw to each horse; which, if the farm will not supply, should be purchas'd. Suppose these four loads and a half to cost 3*l.* 7*s.* 6*d.* and to produce twenty-eight loads of dung; the price *per* load will then be under half a crown. Fern, where it can be got, is a tolerable substitute for

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straw;

straw; but a farm generally yields sufficient litter to make the purchase of it unnecessary. The stubble of the fields might be mowed or harrowed up in frosty weather, and stacked for the purpose.

Farm-yard dung is the next in quality; and where cattle are foddered the winter through, and the yard well spread with litter, they will, upon an average, yield six or seven loads *per* head, so that two cows will manure an acre. Where cattle are stall-fed for fattening, two beasts will, if well littered, yield about twenty-three loads of dung in the space of fifteen weeks.

It should be a farmer's study to make a compost dunghill at every field gate. For this purpose, he should carry there all the manures he can pick up. Cleanings of ponds or ditches, chalk, earth, clay, ashes; the dung of hogs, geese, pigeons, poultry,

try, brick-rubbish, or an thing he can get, such as the list below points out; this, if well mixed together, with a little lime, and turned once or twice in the year, will turn out an excellent manure for grass, clover, or any other purpose. But he should take care to keep such dunghills free from weeds.

When land is dressed at the rate of ten cart-loads *per* acre, each cart should contain sufficient to make sixteen heaps, as parcelled out in the field; and one such heap should be allotted and sufficient, to cover one square rod of ground, there being one hundred and sixty square rods in each acre. But where the soil is in tolerable good condition, eight loads *per* acre will be sufficient for wheat, as ten loads of good dung may make the crop too luxuriant, and occasion it to fall before harvest. With eight loads, one such heap should

should be appropriated to rather more than a square rod of land.

As the hedges shelter birds, which often consume the crop; and the corn under them, from its warm situation, is naturally drawn up weaker and taller than in more open parts of the field, and of course more apt to be lodged; farmers seldom dress the head-lands of a field when they crop it with wheat.

The following, is a list of manures; with the uses they are fit for, most of which are easily procured in different places.

Horse-Dung. When fresh, for cold stiff clays; when rotten, for all sorts of land.

Cow-Dung. Rich and cooling; fit for dry sandy ground.

Hog-Dung. Ditto. This is rather too strong of itself, but is an excellent mixture for the compost dunghill.

Dung

Dung of Sheep, Rabbits, Goats, Deers, &c. Very warm, good top-dressing. Folding a flock of sheep every night upon fallow ground, is a good practice. Sixty sheep will fold an acre in six weeks, equal to ten loads of dung.

Pidgeons-Dung. The hottest of most dungs, fit for the compost dunghill.

Chicken-Dung. For top dressing.

Goose and Ducks Dung. Ditto. Some think it spoils the grass, because horses do not like to eat where geese have fed; but this is owing to the strong salts in it. Where geese take to sitting at nights in a farm-yard, if the place be daily littered and kept clean, they will in the course of the summer make a great deal of dung.

Human Dung is of so hot a nature, that it is fit only for the compost dunghill. If rock-lime be thrown into the necessary in January, it will remove the offensive smell, and dry it so as to make it spread.

Human

Human Urine, and Urine of Cattle, Dogs, &c. The same quality as their respective dungs; and have this advantage, that they do not produce weeds; if mixed with as much, or two thirds water, it is a good top dressing, to be sprinkled over land with water-carts. Human urine should be daily thrown upon the dunghill, and the draining of such dunghills, with the urine of cattle, should never be suffered to run off from farm-yards, but, if possible, collected in reservoirs.

Dead Animals should be buried in compost dunghills.

Blood from the butchers. A very strong manure; it should be mixed with earth, sand, or saw-dust, for the convenience of carriage, and then used as a top dressing for any land.

Horn shavings, bones, hoofs of cattle, bits of leather, hair of animals, feathers, and woollen rags. Good top-dressings for any land.

Salt.

Salt. Excellent top dressing for most lands. Refuse salt is sold, duty-free, for this purpose. It should be sown upon the land.

Lime. A general manure for all lands, stiff or light; excellent to mix in a compost dunghill, as it makes the mass ferment and rot.

Chalk. Good for all soils; eight or ten loads an acre. Put some, if possible, in all compost dunghills.

Marle. A general manure, but excellent for dry, sandy, gravelly, or light lands; good even for mossy ground and clay, if well dissolved. Will make white clover come naturally. Happy is the farmer who has a marle-pit in his grounds!

Sea Sand. For cold strong clays.

Oyster shells and *Sea shells* ground fine.
For ditto.

Sand. For stiff clays.

Clay.

Clay. For sandy land, or when mixed with lime or ashes, for most soils.

Gravel. For stiff clays and boggy ground. If full of large stones, screen it.

Lime rubbish, and Brick rubbish. For ditto.

Rotten wood, and Saw dust, Tanners bark, Rotten leaves, and Willow-tree earth. For stiff clays.

Wood soot, Coal soot, and Malt-kiln dust. For cold stiff clays, to kill rushes in meadows, and for top dressing to corn in spring. Soot and malt dust may be bought for sixpence or seven pence *per* bushel; and twenty or thirty bushels will dress an acre well.

Wood ashes, Ashes from green vegetables, Soap-boilers ashes, Potash ashes, Peat ashes, Charcoal dust, and Turf ashes, are good top dressings, being full of salts. They should, if possible, be kept dry till used.

Coal ashes. For cold stiff clays, either meadow or arable land, and will produce
red

red clover naturally. If not very fine, put a little unslacked lime among them, and it will reduce them to very fine powder.

Chippings of Stone and Marble. For clay land.

Sea-weeds. Very full of salts, and should be ploughed in directly, or made into a dunghill mixed with earth, lime, &c.

Weeds of all sorts should be burnt for ashes, if their seeds are ripe; otherwise, for the compost dunghill.

Offals of a Kitchen Garden, and sweepings of short grass. For the compost dunghill.

Sweepings of Streets. For meadow-land.

Sweepings of Herb-markets. For the compost dunghill.

Offals of Fish. For ditto.

The *Roots of Couch or Scutch-grass* harrowed from lands. For the compost dunghill, or burnt upon the land.

Mud of Rivers, Fish-ponds, and Ditches. For dry sandy ground.

Ant-bills. For the compost dunghill.

Oil-cakes. A good top-dressing; are frequently imported from Holland; fifteen shillings worth spread on an acre will dress it well.

Hops, from brewers. For clays.

Grains from ditto. Good top-dressing.

Burnt Clay. A very convenient manure, after making new ditches on clay lands; a little brush-wood will burn a great quantity.

Sweepings of a dog-kennel. For the compost dunghill.

Buck - wheat, Tares, Rye, Clover, and Everlasting Pea. To be ploughed in when going to blossom.

Turneps, ploughed in at Michaelmas.

Urine of all sorts, *brine* of salted meat, and pickled fish, *soap suds*, *liquors* from *dye-houses*, *salt and water*, *blood and water*, or the *washings of a slaughter-house*; for top-dressings; but, when too strong, should be diluted with water.

Flower

Flower of Brimstone and Water. Good to sprinkle over turneps, or soak the feed in before sown, to prevent the fly.

Note. The compost dunghill may be a mixture of any sort of manure; but if lime be mixed with every layer, it will make it ferment and rot the sooner. It should be made in a shady corner, if possible, or covered over to prevent the sun's exhaling the virtue of the dung; it should, as I said before, be frequently turned, and no weeds be suffered to grow on it.

C H A P. XIX.

MISCELLANEOUS OBSERVATIONS.

1. **M**EADOWS. To make meadows, or pastures flourish, they should be cut for hay only once in two years: the second year they should be fed.

Soap-boilers ashes, which may be purchased for about three shillings a hundred weight, will effectually destroy thistles in grafs lands, by mowing the thistles, and sprinkling the ashes lightly over them.

2. *Cows.* A milch cow will require an acre and three quarters of good meadow, or two acres of indifferent pasture, to keep her well from May 1, to October 31; or one acre and a half of clover green, will keep her

her twenty - three weeks, and enough will be left to keep two sheep six weeks. She will eat, when fed on hay, forty pounds weight a day upon an average; which for the winter six months, is four loads and a half. Straw, and fifty pounds of turneps per day, will keep her well before calving.

Whether the farmer weans calves, to sell them at three years old, with calves by their sides; suckles calves for the butcher, or converts the milk of his cows into butter or cheese, each cow will, with management, pay him about five pounds ten shillings, or six pounds a year; so that he may proceed the way that is attended with least trouble, and most convenient to himself.

N.B. It will require the cream of between sixty and seventy quarts of good milk (suppose sixty-five) to make five pounds and a quarter of butter; which, at nine-
pence

pence per pound, is worth three shillings and eleven pence farthing; whereas, the same quantity of milk sold at one penny halfpenny per quart, would yield eight shillings and three halfpence; but, in the first case, the skimmed milk is left for hogs, which may be fattened, if they have plenty, on that alone: and in feeding of hogs, skimmed milk will pay about one halfpenny a quart.

In dairies where cheese is made, butter is generally made of the whey-cream; and in dairies where butter is made, a blue milk cheese is usually made of the whey-curd.

In buying young cows with calf, make choice of those with a fine, long, spreading, small, green, horn, fine and clear of leather under the chops; with a good shoulder, deep chested, broad and well made behind, a straight broad back, full hips, with short straight legs, a walk open and stately, a
thick

thick skin, broad-ribbed, with a good milk vein and udder, and large teats. their age may be known by their horns. A cow throws off the tip of her horns, which is called shedding them, at three years old; at four years, a ring or wrinkle is seen round each horn, near the base; and every future year adds a fresh ring. Thus two rings denote that she is five years old, three rings six years, and so on.

In buying store-heifers, take care they are not bulled before you buy them. A sure token to know they are bulled, is from their having wax in their teats, which may be brought out by drawing them between the fingers. Observe also the barren under the tail, if there is a drop hanging at it, which generally gathers dirt, depend upon it she is bulled.

3. *Sheep.* To such as wish to keep sheep, the following estimate will be acceptable.

Fine

	£.	s.	d.
Fine large ewes with lamb, may be bought in at Michaelmas, at about twenty-two shillings each, which, in July following, will sell again for	-	-	1 1 0
The lamb will then sell for	-	1	7 0
The wool of the two, shorn be- fore fold, will sell for about		0	3 0
		<hr/>	
		2	11 0
Deduct the first cost	-	-	1 2 0
		<hr/>	
Leaves profit	-	-	1 9 0
		<hr/>	

Sheep may be fed on stubble till Christ-
mas, where grass is not plentiful, and then
on turneps till May-day; next on rye, and
then on clover, till they are sold. No
meadow will do for sheep in the winter,
that is wet enough to let them sink up
to the first joint of their legs; it will rot
them.

An acre of turneps will feed one hundred sheep for ten days; or about eight sheep from Christmas-day to May-day.

Sheep require a large range of pasture: two acres and a half of grass, and two and a half of stubble, be they ever so bare, will keep a sheep all the winter till March.

Twelve pounds weight of hay will keep twenty sheep and their lambs a week.

An acre of turneps will keep forty sheep three weeks: as much as they will eat to fatten them.

Dung of sheep, when folded upon land, for the richness of the manure, is equal in value often to the profits arising from the sale of them. Threescore sheep folded every night, will manure an acre of ground well in the space of six weeks.

4. *Calves.* A yearling calf will eat about five pounds or six pounds of hay in

X

the

the course of the night, by way of fodder in winter (*i. e.*) half a load in six months. To make them grow, they ought to have the best hay.

Calves may be weaned with very little milk, by the following method.

The first eight days after they are calved, they should suck the cow. They should then be taken from the cow, and the next eight days fed with new milk. The next eight, you may give them three parts new milk, and one part hay-tea mixed, made by steeping the best hay in hot water, and letting it stand till it is cold : the eight following days give them half new milk and half hay tea ; the next eight, three fourths hay tea, and one fourth milk ; and after this, nothing but hay-tea till they will drink water. During this time, they should have a little fresh hay put daily before them, to tempt them to eat ; and,
in

in the last three weeks, they should be turned out into grass, that they may learn to feed. One cow will thus wean several calves. Calves so weaned will thrive well, and grow, but not equal in size to those that run with the cows all the summer,

5. *Feed of Cattle.* The greater extent of ground cattle have to range in, the better. Thus, one field of ten acres will fatten or keep more cattle, than two fields of five acres each.

6. *Stubbles.* To make the most of stubbles; turn geese into those of oats, and pigs into those of beans: each must have water to have recourse to, or they will not thrive. Where there is no pond, place a trough or two. One month in an oat stubble will fatten geese well.

7. *Weight of Wheat, &c.* A bushel of wheat, weight sixty pounds standard
(eight

(eight gallon measure) when ground into meal, and dressed into flour, gives forty-five pounds one ounce of flour, and twelve pounds of bran, which, when baked, will yield fifty-eight pounds and a half of bread.

Note. Twelve ounces of yeast, and four ounces of salt, to half a bushel of flour.

A bushel of good wheat, nine gallon measure, will weigh seventy pounds.

C H A P. XX.

ON THE PRICE OF LABOUR.

THOUGH the price of labour differs a little in most countries, the following prices in the county of Surry, may lead gentlemen to judge of its value in other places, especially if they take into the consideration the price of day-labour, which is there, in the winter, one shilling and four-pence; in the summer, eighteen pence.

	s.	d.	s.	d.
Threshing a quarter of Wheat				
(nine gallon measure) from	2	6	to	5 0
Barley, ditto	-	-	2	0 to 2 6
Oats, ditto	-	-	1	2 to 1 6
Horfe or Tick Beans ditto, from	1	0	to	1 6
according to the goodness of the crop.				

Note.

Note. Cleaning the above, is always paid for apart.

Threshing and cleaning clover seed, fit for sale, from five shillings a bushel to six shillings.

Setting tick-beans by women, six-pence per peck; horse-beans, eight-pence. An additional penny a peck, if the setters cover them in.

Reaping wheat, from seven shillings to twelve shillings an acre, according to the crop, and whether it be lodged or not.

Mowing barley with clover mixed, about two shillings and six-pence an acre.

Mowing oats, one shilling and six-pence, or two shillings an acre, according to the crop. Two shillings and six-pence, if they are much lodged.

Mowing grass, two shillings and six-pence an acre; three shillings if flooded or lodged.

Cutting

Cutting beans five shillings or six shillings an acre, according to the crop.

Hoeing turneps, six shillings an acre the first time; four shillings the second. An active man can earn at it three shillings and six-pence, or four shillings a day.

Hoeing beans, five shillings an acre, if set in rows; six shillings, if broad-cast.

Cutting and making faggots of furze, three shillings a hundred.

Cutting of turf for fuel, two shillings a thousand.

Felling a timber tree, one shilling; cutting up the tops, and making them into faggots, one shilling and six-pence a hundred; and one shilling and six-pence a load for the stack-wood.

Grubbing roots, five shillings a load, and nine-pence a square rod for breaking the ground.

Note. A load of stack-wood, is a pile three feet high, twelve feet long, and four feet

feet over; or three feet high, three feet over, and sixteen feet long.

Making inside dead hedges, three-pence half-penny per rod, and a faggot per day. Outside hedges, next roads or commons, four-pence per rod, and a faggot.

Note. Sixteen feet and a half in length, is a rod.

Throwing out gravel from a pit, four-pence a load.

Spreading dung upon land, one shilling per acre.

Binding hay, two shillings a load.

Binding straw, one shilling a load.

Cutting a waggon-load of fern on heaths, four shillings. For this the cutters help to load the waggon.

Cutting chaff, one penny a bushel. Some men can cut forty bushels a day.

Thatching hay - ricks, one shilling for ten feet square, and one shilling and four-pence for bean - ricks. If the thatcher finds the pins, he has two-pence a square

square more. Two men can thatch eight or nine squares in a day.

Washing and sheering a score of sheep, three shillings.

Digging new gripes or water-trenches in meadows, the width and depth of the spade, one penny per rod ; cleaning out old ones, a halfpenny.

Ploughing light land, five shillings or six shillings an acre : stiff, from seven shillings to ten shillings.

Withs, to bind faggots, are six-pence a hundred.

Common hurdles five-pence each ; higher ones seven-pence ; gate hurdles of oak, three shillings and eight-pence each.

The price of making a dozen of such hurdles as are comonly sold for five shillings a dozen, is one shilling and three-pence, and one shilling and six-pence for such as sell for seven shillings a dozen.

Stakes for hurdles, three shillings a hundred ;

dred ; five feet stakes, five shillings a hundred.

Edders to weave the tops of dead hedges,
two shillings and six-pence a hundred.

C H A P. XXI.

ON MEASURING OF TIMBER.

THE subject of this chapter is rather out of the line of farming; but the work being calculated for the use of country gentlemen, such may occasionally have timber to fell, and to such, the method of measuring it may be acceptable.

Timber is paid for by the cubical foot; and, to get at the exact dimensions, they take the girth, or measure the circumference in the middle of the body of the tree, between the root and the part where it forks or branches off. Should there be a swell in the middle, the buyer is at liberty to take the girth in any place nearer the root.

The girth thus taken, four inches are allowed for rind, and a fourth part of the remaining number, of which the girth consists,

sits must be first multiplied by itself; the product in inches must then be multiplied by the number of feet, of which the length of the body of the tree consists, and this product, being divided by 144, the cubical inches in a foot, gives the true cubical feet in the tree.

What are the cubical feet in a tree 17 feet long, whose girth is 9 inches? Answer, as below, 9 feet 6 inches.

Multiply by	$\begin{array}{r} 9 \\ \hline 9 \end{array}$	Inches girth
Multiply the product by	$\begin{array}{r} 81 \\ 17 \\ \hline 567 \\ 81 \\ \hline \end{array}$	Inches feet, the length,
	$\begin{array}{r} \hline \text{feet inches} \end{array}$	
Cubical inches 144)	$\begin{array}{r} 1377 \\ 1296 \\ \hline \end{array}$	(9 6
The half of 144	$\begin{array}{r} \hline 72 \end{array}$)
is	$\begin{array}{r} 81 \\ 72 \\ \hline \end{array}$	(1 half foot, or 6 inches

9 This remainder, if further divided, would give a fraction, which is not necessary.

The top of the tree is generally given to the purchaser, for cutting it down, and carrying it away.

All

All under 6 inches in the girth is accounted top, and not timber.

Where there is a fork above 6 inches in girth, one of the prong pieces only is reckoned in the length.

Fifty solid, or cubical feet, is called a load.

No part of a tree that is not found, is measured into the length.

Gunter's sliding rule is that by which timber is measured. This rule, with a book of explanations, may be bought at any mathematical instrument-maker's.

	s.	d.	
Crab-tree is worth 1 s. a foot, or	50	0	a load.
Pear-tree about 7 d. a foot -	29	2	a load.
Elm is worth about - -	36	0	a load.

Cherry-tree is worth a shilling a foot.

Oak ditto, but is the more valuable, according to the bend of the timber, as will it serve for ship-Work.

Every country carpenter knows the price of timber, which varies according to the situation of the place, and distance to be carried.

Forty

Forty yards of bark, 3 feet and a half high, set up against poles, is called a load, and is worth about 35s. or 40s. The price of barking about 12s. a load.

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FINIS.

Dr. TRUSLER begs also to recommend the following useful books to the attention of country gentlemen.

*1. The WAY to be RICH and RESPECTABLE, pr. 2s. fifth edition, addressed to Men of Small Fortune, but equally useful to those of Large.

In this pamphlet is given (amid a variety of other matter, estimates or plans of living in the country, from 130l. a year to 780l. shewing, how well a family may live with economy on a little money;) one, pointing out a method by which a gentleman, with a few acres of land, may live as well, and make as good an appearance for 500l. a year, as others that spend double the money, and yet lay by fortunes for his children.

*2. The GENTLEMAN'S POCKET FARRIER, price 1s. 5th edition. This book will lie in a pocket-book, for the use of a traveller, and shews how to treat a horse upon a journey, and what remedies are proper for accidents on the road. Many gentlemen have doctored their horses for years by this book, and needed no other advice or assistance. It has a copper plate, shewing the age of a horse by his teeth, and directs a person in the purchase of one.

*3. The COUNTRY-LAWYER, price 3s. 6d. half-bound; being a summary of all those Acts of Parliament, with the Opinion of the Courts thereon, which persons living in the Country have continually occasion to refer to, with all the tax acts.

Every subject is here fully and accurately treated of, more so than in any one book extant, and nothing unnecessary put in to crowd it; and it contains every law respecting the Clergy, which no other publication does; with copies of all their instruments and public papers, and all the laws between landlord and tenant, parish-business, &c. precluding any application to an attorney or to other books.

In the press, and speedily will be published for the use of youth, The PROGRESS of MAN and SOCIETY, or an *Orbis Pictus*, or Picture of the world; illustrated by more than one hundred cuts beautifully designed, and precisely and clearly treated on; calculated to lead children, by amusement, to a thorough knowledge of life, and acquaintance with the world and all about them. By Dr. TRUSLER, who flatters himself it will be found the most entertaining and improving book for youth, that ever yet was published.

*4. PROVERBS EXEMPLIFIED and illustrated by a variety of CUTS, teaching morality and a knowledge of the world: after the manner, and by the Author, of Hogarth Moralized.—For schools, as a succession-book to Æsop's Fables, 12mo. price 3s. half-bound. A pleasing gift for youth. —These prints, though in wood, are so well designed, and the characters in human life so well drawn and preserved, that persons of taste may examine them with pleasure; and Dr. TRUSLER ventures to say, are no ways inferior to Hogarths.

*5. The GARDEN-COMPANION, sixth edition, price 1s. 6d. a Calendar, pointing out what should be done weekly in

all the branches of gardening; with the proper seasons for sowing, planting, &c. and the time when the produce may be expected, so as to have a regular succession of flowers, fruits, and vegetables throughout the year; with a number of curious experiments in gardening, for the amusement of gentlemen and ladies, and a list of the flowers that blow each month. By the aid of this book, any country servant may look after a kitchen or flower-garden.

6. *The HABITABLE WORLD DESCRIBED, or the present State of the People in all Parts of the World.* This work is inscribed by permission to his Royal Highness the Duke of York, and has been patronized by many hundred gentlemen of the first rank and learning; indeed, there is no occasion to say any thing of it, the work will speak for itself. It comes out in monthly numbers, was began Jan. 1, 1788; and in this month, Nov. 1790, the 35th number was published. Thus has it stood the test of all examination, and is better received now than ever, it having been found, that the plates and letter-press, instead of falling off, as most periodical publications do, have risen monthly in excellence more and more, as eminent artists could be found. Each number contains four sheets of letter-press, in 8vo. printed under the author's own roof, that it may be well executed, on superfine thick paper, and hot-pressed; with the addition of two highly-finished copper-plates, from original designs, or two quarto maps and one view, and printed on the best columbiere paper. Some few proof impressions of the plates are taken, which, with picked sheets of letter-press, sell for 3s. each number.

As between five and six numbers make a volume, six volumes are now completed. These describe all the countries round the North-Pole, and the whole dominions of Russia in their vast extent, accompanied with engravings from original pictures, on interesting subjects, brought from China, by John Duncan, Esq. by whom the author has been favoured with copies; and these will be followed by Sweden and Denmark.

Two shillings a month is no object to those who buy books, and the author flatters himself as the work goes on, it will be found, not only the most elegant work of its kind, and a valuable ornament to every library, but the most entertaining and instructive to all minds and classes, young and old care being taken in the compiling, not to insert any thing dry and uninteresting, or information that cannot be relied on, but the best accounts that can be collected from writers of every country, and an abundance of new matter, with which the author has been complimented by a number of travellers.

Persons disposed to take in this work, may begin with No. I. and go on regularly, or may have any volume they think proper. Each volume in boards, 12s. and if they apply to him, No. 62, Wardour-street, they will be regularly served with fine impressions. Such persons as live at a distance from London, may have them through their bookfeller, or get some friend to take them from the author himself in town.

*7. *ELEMENTS of MODERN GARDENING, or the art of laying out Pleasure-Grounds, and embellishing the Views round about our houses, price 2s. 6d.*

